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ABSTRACT

Data on the intellectual maturity of children 6-11 years of age in the noninstitutionalized population of the U. S. is analyzed in relation to their demographic and socioeconomic background. This is the second report on the Goodenough-Harris Drawing Test, administered in the Health Examination Survey of 1963-65, and deals with the results in relation to factors of race, region, size of place of residence, grade in school, education of parent, and family income. For this survey, a probability sample of 7,417 children was selected to represent the 24 million noninstitutionalized children in the U.S. While white children scored higher than Negro children on this test, the racial differential is lower than on the Wechsler Intelligence Scale for Children and the Wide Range Achievement Test, and is reduced to a negligible amount when the effects of differences in parent's education and family income are controlled. The performance of children on this test does not differ appreciably among the four regions of the Nation, except in the South, where children of both races fall below those in other regions. Size of place of residence is not consistently related to test scores. There is a slight but consistent association between drawing test scores of white and Negro children and rate of population change in the 1950's. Children over the modal age for school grade do more poorly than those below, while those at the modal age yield consistently average scores. Father's education and family income both show a relationship to children's scores. Included are descriptions of the drawing test, the survey design, and reliability estimates. Comparisons are made with previous research using this type of instrument. (Author/DB)

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DATA FROM THE NATIONAL HEALTH SURVEY
Series 11 - Number 116

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Intellectual Maturity of Children: Demographic and Socioeconomic Factors

United States

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Series 11 reports present findings from the National Health Examination Survey, which obtains data through direct examination, tests, and measurements of samples of the U.S. population. Reports 1 through 38 relate to the adult program. Additional reports concerning this program will be forthcoming and will be numbered consecutively. The present report is one of a number of reports of findings from the children and youth programs, Cycles II and III of the Health Examination Survey. These reports, emanating from the same survey mechanism, are being published in Series 11 but are numbered consecutively beginning with 101. It is hoped this will guide users to the data in which they are interested.

Vital and Health Statistics Series 11-No. 116

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Data from the
NATIONAL HEALTH SURVEY

Series 11
Number 116

ED 073154

Intellectual Maturity of Children:
Demographic and Socioeconomic Factors
United States

Findings from the modified Goodenough-Harris Drawing Test by age, sex, race, region, size of place of residence and population change from 1950 to 1960, grade in school, family income, and education of parent, in terms of raw and standard scores.

DHEW Publication No. (HSM) 72-1059

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service

Health Services and Mental Health Administration
National Center for Health Statistics
Rockville, Md. June 1972

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COOPERATION OF THE BUREAU OF THE CENSUS

In accordance with specifications established by the National Health Survey, the Bureau of the Census, under a contractual agreement, participated in the design and selection of the sample, and carried out the first stage of the field interviewing and certain parts of the statistical processing.

Vital and Health Statistics-Series 11-No. 116

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CONTENTS

	Page
Introduction	1
The Test	2
Findings	2
Race	3
Region	6
Size of Place of Residence	8
Grade in School	10
Education of Parent	13
Family Income	15
Relationships	17
Discussion	19
Summary and Conclusions	21
References	24
List of Detailed Tables	25
Appendix I. Statistical Notes	69
The Survey Design	69
Reliability	69
Sampling and Measurement Error	70
Small Categories	72
Standard Scores and Standard Deviations	72
Appendix II. Demographic and Socioeconomic Variables and Related Terms	73

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INTELLECTUAL MATURITY OF CHILDREN:

DEMOGRAPHIC AND SOCIOECONOMIC FACTORS

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Jean Roberts, *Division of Health Examination Statistics*

INTRODUCTION

This second report on the intellectual maturity of children 6-11 years of age in the United States as measured by the modified Goodenough-Harris Drawing Test in 1963-65 deals with the results in relation to selected demographic and socioeconomic factors.

On this test, while white children performed better than Negro children, the racial differential is lower than on the other two standardized psychological instruments used in the survey—the Wechsler Intelligence Scale for Children[1] and the Wide Range Achievement Test [2]—and is reduced to a negligible amount when the effects of differences in parent's education and family income are controlled.

The Health Examination Survey, from which these national estimates derive, is one of the major programs of the National Center for Health Statistics, authorized through the National Health Survey Act of 1956 as a continuing Public Health Service activity to determine the health status of the population.

Three different types of survey programs are utilized in carrying out the National Health Survey objectives.[3] The Health Interview Survey, in which health information is collected from samples of people by household interview, focuses primarily on the impact of illness and disability within various groups in the noninstitutionalized population. The Health Resources program obtains health data as well as health resource and utilization information through surveys of hospitals, nursing homes, and other resident institutions and the entire range of personnel in the health occupations. The third major program utilized for the National Health Survey is the Health Examination Survey.

In the Health Examination Survey, data are collected by direct physical examinations, tests, and measurements performed on the sample population studied. This provides accurate diagnostic data on the prevalence of certain medically defined illnesses. It also is the source of information on unrecognized and undiagnosed conditions as well as on a variety of physical, physiological, and psychological measurements within the population. In addition it makes possible the study of relationships among the various examination findings and between these findings and certain demographic and socioeconomic factors.

The Health Examination Survey is organized as a series of separate programs referred to as "cycles." Each cycle is limited to some specific segment of the population in this country and to specified aspects of health. In the first cycle data were obtained on the prevalence of certain chronic diseases and on the distribution of various physical and physiological measurements and other characteristics in a defined adult population, as described previously.[4,5]

For the second cycle of the Health Examination Survey, on which this report is based, a probability sample of the Nation's noninstitutionalized children 6 through 11 years of age was selected and examined. The examination focused mainly on health factors related to growth and development but it also included screening for

heart disease, congenital abnormalities, certain eye defects, ear-nose-throat diseases, and neuro-musculo-skeletal abnormalities. It contained an examination by a pediatrician; an examination by a dentist; tests administered by a psychologist; and a variety of tests, procedures, and measurements given by technicians. A comprehensive description of the survey plan, sample design, content of the examination, and operation of the survey is contained in another report.[6]

This second program of the survey was started in July 1963 and field collection operations were completed in December 1965. Out of the 7,417 children selected for the sample, 7,119 (or 96 percent) were examined. This national sample was representative of the roughly 24 million noninstitutionalized children in the United States 6 through 11 years of age.[6]

Each child was given a standardized examination by the examining team during his single visit to the specially designed mobile units used for the survey. Prior to the examination, information was obtained from the parent of the child, including demographic and socioeconomic data on the household members as well as medical history, behavioral, and related data on the child to be examined. Ancillary data about the child, including grade placement, teacher's rating of his behavior and adjustment, and health problems known to the teacher, were requested from the school. Birth certificates to verify the child's age and information related to the child at birth were also secured.

Statistical notes on the survey design, including the number of children examined within selected demographic and socioeconomic groups, the reliability of the data, and the sampling and measurement error are shown in appendix I.

THE TEST

Included as part of the standardized examination in this cycle was a battery of tests, designed to assess the mental health aspects of growth and development, which could be administered adequately within the space of 1 hour. Based on recommendations of child psychologists from five leading universities and the National Institute of Mental Health, the battery consisted of verbal and nonverbal tests of or related to intelligence as well as other tests designed to assess various personality traits. The specific measures of intelligence consisted of the Vocabulary and Block Design subtests of the Wechsler Intelligence Scale for Children and the Draw-a-Person Test. For the assessment of personality, five cards of the Thematic Apperception Test were used. School achievement in the basic skills of reading and arithmetic computation were measured by these two subtests of the Wide Range Achievement Test. An assessment of school achievement was included because of its relation to both the intellectual status and the social and emotional adjustment of the child. All testing was done by psychologists who had been trained at least at the level of the master's degree and who had previous experience in administering tests to children.

A previous report by Sells[7] contains an independent evaluation of the psychological test battery as used in this cycle of examinations.

The findings in this report on intellectual maturity are based on the Goodenough-Harris Drawing Test as modified for use in the survey. As described more fully in the initial report on findings from this survey instrument,[8] the examinees were asked to draw a person, rather than to draw a man and then a woman as specified in the Harris instructions for the test.[9] The single drawing thus obtained, however, was scored according to the Harris instructions, which provide a separate scoring system for the man and woman figures that cannot be considered strictly comparable. The maximum number of points possible on the man figure was 73 and on the woman figure was 71.

The two forms become directly comparable by conversion of point scores into standard scores as described in appendix I. These values are shown in the tables in this report.

FINDINGS

Intellectual maturity of noninstitutionalized children 6-11 years of age in the United States, as measured by raw score data of the modified Goodenough-Harris Drawing Test from the Health Examination Survey in 1963-65, increased with age (but generally at a decreasing rate) for children on drawings of a man figure from an average of 16.3

points at 6 years to 32.5 points at age 11. The average values for the woman figure were slightly higher—ranging from 20.2 at 6 years to 36.2 at 11 years—as indicated in a previous report.[8] Girls, in general, obtained higher mean scores on drawings of a woman than did boys throughout the age range tested, while the differences between mean scores obtained by the two sexes on drawings of a man were negligible. Variability in scores shows a consistent increase with age for both types of drawings (table 1).

In the sections to follow, findings from the modified Goodenough-Harris Drawing Test among the highly representative sample of children in the noninstitutionalized population of the United States are analyzed in relation to race, region, size of place of residence and change in size from 1950 to 1960, grade in school, education of parent, and annual family income. Insofar as the sample size permits, racial and regional differences within each of the last five factors are also considered. Since more than 80 percent of the children drew a figure of their own sex, the data based on boys' drawings of a man and girls' drawings of a woman are more reliable than those for the two groups who drew a person of the opposite sex.

When these subsamples by age and sex are further broken down into a third-order classification, as by race, or into a fourth-order classification, as by race and region or race and education of parent, for example, the number of the children in many of the cells is too small to provide a reliable estimate for that segment of the population which it represents. If this number was below 10, generally no statistics have been included unless they were essential to the understanding of the distribution within a third-order or fourth-order classification. When the frequency in a cell is low, the corresponding error of estimate for the mean becomes substantial, as discussed in appendix I. The magnitude of the child population in the United States within the major subgroups considered here is shown in table 3 and the number of examinees in table I, appendix I.

Findings are shown first in terms of raw scores obtained by boys and girls drawing a man and those drawing a woman. Then, since it is readily apparent from the mean and standard deviations of the raw scores that the inclusion of scorable items increased with age, conversion is made to standard scores or deviation intelligence quotients (setting the mean at 100 and the standard deviation at 15), which permits approximate comparisons of relative standings for any one age group with comparable data for another age group, and the findings are further analyzed in these terms. Finally the standard scores on the man and woman drawings have been combined and restandardized to give a single estimate of intellectual maturity, which is also considered in relation to these demographic and socioeconomic factors.

In the analysis of these data, differences of a magnitude that would be significant at the 5-percent level are considered here to be statistically significant (see appendix I).

More complete definitions of the demographic and socioeconomic factors considered in this report are given in appendix II.

In this report only those tables and figures revealing main effects by race and broad geographic region of the United States are reported for both point (raw) scores and standard scores. For further breakdown by sociological variables, raw and standard score findings are included for the key variable but further results by race and region are limited to standard scores, which are directly comparable for all ages and both drawings.

Race

White children consistently scored higher than did Negro children on the drawings of a man and a woman in the Goodenough-Harris Drawing Test, used here as a measure of intellectual maturity of children in this country (tables 1 and 2, figure 1). The mean differences in scores were large enough to be statistically significant throughout the age range on the woman drawings and at all but ages 7 and 11 years on the man drawings. On both types of drawings there was somewhat more variation among scores attained by Negro than white children. This pattern in variability was, however, not consistent throughout the age span in this study, exceptions being evident at 8 and 11 years on the man drawings and 8 and 9 years on the woman drawings. The racial differences in variability, moreover, tended to be small enough to be attributable to chance alone

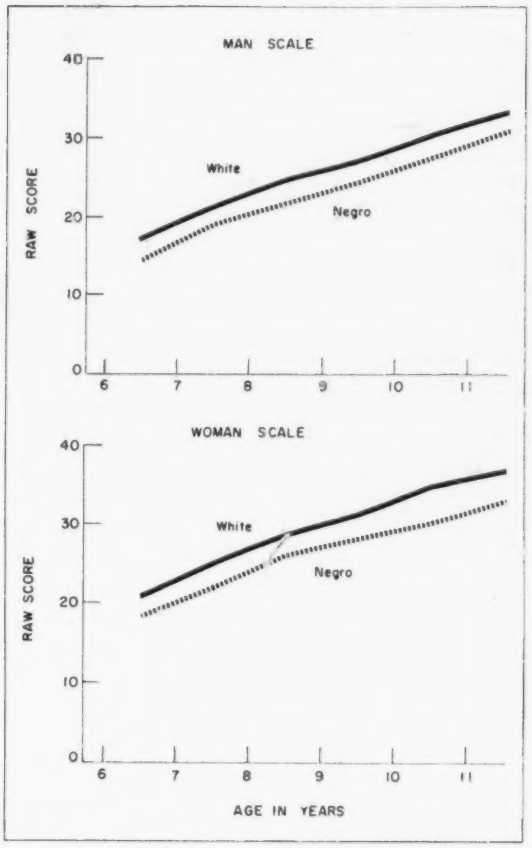

Figure 1. Average raw scores for white and Negro children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by age: United States, 1963-65.

in a sample of the size and design used in this survey.

On the man drawings, white boys obtained mean scores 1 to 3 points higher than their Negro counterparts. Only among younger boys, 6-8 years, were the racial differences large enough to be considered statistically significant. This finding differs from the results of many so-called intelligence tests, in which the difference between the test performances of the races tends to increase with age. Among girls producing drawings of a man, the mean differences in score between the two racial groups were negligible (1 point or less) for those under 9 years of age; the scores for white girls, however, retained the slight edge throughout. For older girls the racial differences were more substantial—3 to 5 points higher for white girls on the average (figure 2). Because the number of girls represented here was quite small, only at age 10 years are the mean differences considered statistically significant.

Scores from the woman drawing also averaged higher for white than Negro boys, the one exception being at age 6, where there was a negligible difference of less than 1 point but

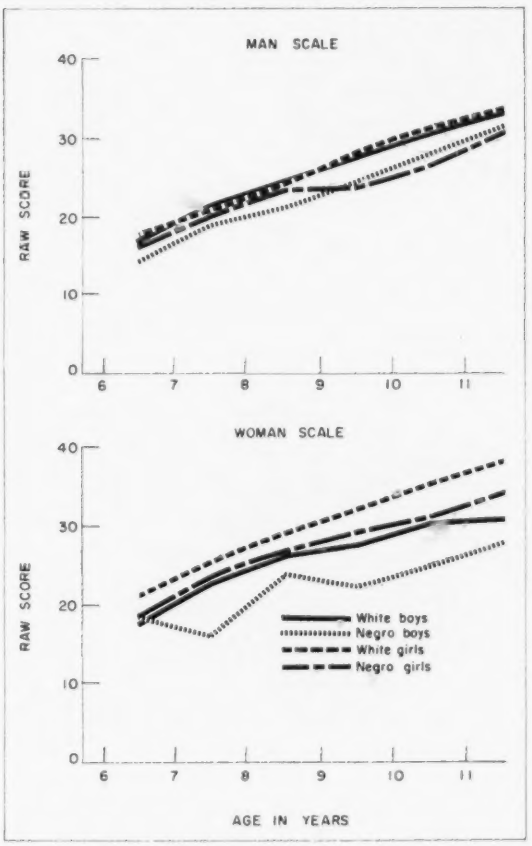

Figure 2. Average raw scores for white and Negro boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by age: United States, 1963-65.

in the opposite direction. From age 7 on, mean scores for white boys ranged 2 to 6 points higher than for Negroes, the differences being large enough to be significant only at ages 7 and 9 years with the small groups of the population represented here. White girls, on these drawings, consistently outscored Negro girls by 2 to 4 points on the average, the differences being statistically significant throughout the age range. The greatest differences were noted among the older girls, 10 and 11 years of age.

On the drawings of a man there are no sex differences large enough to reach statistical significance within the conditions established by sample size and design of the study. Such differences as appear (tables 1 and 2 and figure 2) suggest that the very youngest white girls and those 9 and over may score higher than white boys. Among Negro children older boys rate higher than girls and younger girls outscore boys, on the average.

A much clearer pattern is evident on drawings of a woman. Here both white and Negro girls obtained higher scores than boys of their group, the differences being large enough to be statistically significant among the older children, from 9 years on.

Both racial groups show a consistent pattern of increase in mean score with age on either type of drawing. This pattern is significant, bearing out the character of the test as reflecting some factor of maturity. That this factor is closely related to intellectual and cognitive performances has been shown in previous studies.[8,9]

The number of children from other racial groups in this country, including Orientals and American Indians among others, is too small—less than 2 percent—for the findings from a sample of the size used here to be reliable. The performance of girls of other races on this test does, however, tend to exceed that of white girls while that for boys of the corresponding racial groups is similar.

When conversion is made from raw to standard scores so that the relative standings within each age group can be compared in terms of the deviation intelligence quotient, a similar pattern to that for raw scores may be seen in Negro-white differences in intellectual maturity as measured by the test used here (table 4). (These standard scores for the Man and Woman Scales were derived for each of the four groups separately—drawings of a man by boys and girls and drawings of a woman by boys and girls.) On the man drawings, white boys and girls showed average standard scores of approximately 101 to 102 throughout the age range. White girls on the woman drawings consistently averaged 101 at each age but boys on this figure were consistent at 101 or 102 only from 8 years on. Standard scores for Negro children were consistently lower than those for white children, except for 6-year-old boys on the woman drawings. Average scores for Negro children also fluctuated considerably more from one year of age to the next than did those for white children. Larger racial differences in mean standard scores were found on drawings of a woman than on those of a man at four of the six ages for boys and girls. These differences on the Woman Scale, ranging from 4 to 15 standard score points, were statistically significant among girls at each age and, with few exceptions, also among boys. On the drawings of a man the racial differences were large enough to be statistically significant only among younger boys through age 9 and older girls from ages 9 through 11 years.

The single rating of intellectual maturity, based on a combination of standard scores for the man and woman drawings (table 4), shows an even more consistent pattern of racial differences. Here white boys exceeded Negro boys by average differences which generally diminished with age from 7 standard score points at age 6 to 3 at age 11. White-Negro differences in mean standard score points for girls ranged from 4 at ages 7 and 8 years to 8 at age 10 but showed no age-related pattern. The differences at each age were large enough to be statistically significant, the one exception being among the 11-year-old boys. Hence in performance on this test Negro children may be expected, on the average, to fall behind whites by an amount which is generally one-third of a standard deviation of the distribution of scores at any age. Across all age groups, this differential is consistent but somewhat less than that found for the subtests of the Wechsler Intelligence Scale for Children given in the second cycle of the Health Examination Survey.[1]

Region

At each year of age children in the South consistently scored lower than those in other regions of this country on both man and woman figures in the modified Goodenough-Harris Drawing Test used as a measure of intellectual maturity (table 5 and figure 3). They rated 2 to 3 points lower, on the average, on the man figure and 1 to 2 points lower on the woman figure. However, only on the drawings of a man was the difference between mean scores in the South and the highest of the other regions—the Northeast—large enough to be considered statistically significant.

No consistent regional differences were found in the variability of scores obtained on either figure.

Children in each region show a consistent increase in mean score with age on both types of figures. The variability in scores tends generally to increase with age; however, only for three of the eight groups—the man drawing for the Northeast and the woman drawing for the Northeast and South—was the pattern consistent throughout the age range.

In drawings of a man, both boys and girls in the South consistently show lower mean scores than those in the other regions except at age 11, where boys in the Midwest did no better than those in the South. When comparison is made between the South and the Northeast, where on this type of drawing children rate slightly above those in the Midwest and the West, the mean differences in scores are large enough to be statistically significant at ages 6, 8, and 9 years for boys and at 6, 7, and 9 for girls (figure 4).

The pattern of regional differences in mean scores on the woman drawings for boys and girls considered separately is less consistent and distinct than that for the man drawings. Here boys show no regional pattern in mean scores that is consistent throughout the age range. Among younger girls regional differences are negligible, while from age 9 on those in the South rate lower, though not significantly so, than those in other areas.

When conversion is made to standard scores for boys and girls on the two types of figures separately, Southern children show consistently lower

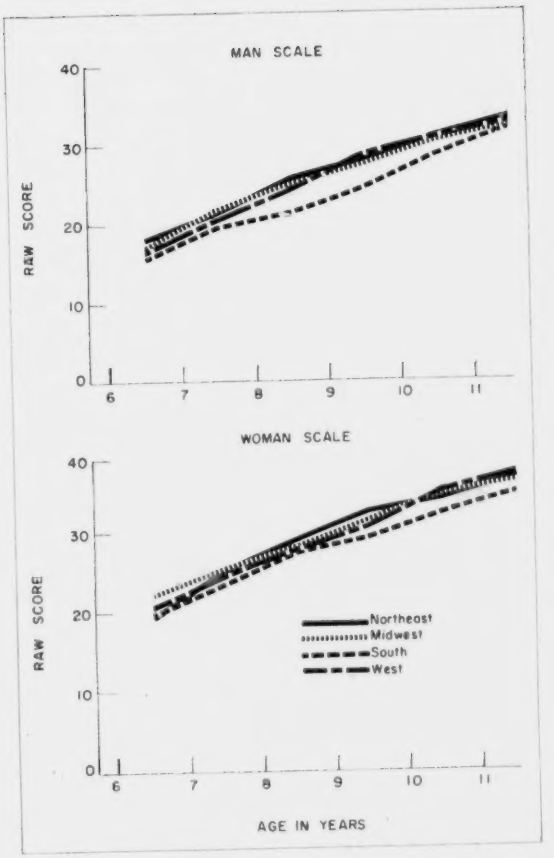

Figure 3. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region and age: United States, 1963-65.

ratings on the man drawings at all ages, on the average, than those in the other regions (table 6). A similar pattern is shown on the woman drawings except for 6- and 10-year-old boys and 8-year-old girls, where the ratings of those in the South were as high or higher than those in other regions.

The single rating of intellectual maturity from this test (table 6) shows children in the South having consistently lower scores than those in the other regions. Boys in the Northeast, except at age 7 years, rate slightly higher on the average than those in other parts of the country. Among girls the pattern is less consistent and distinct.

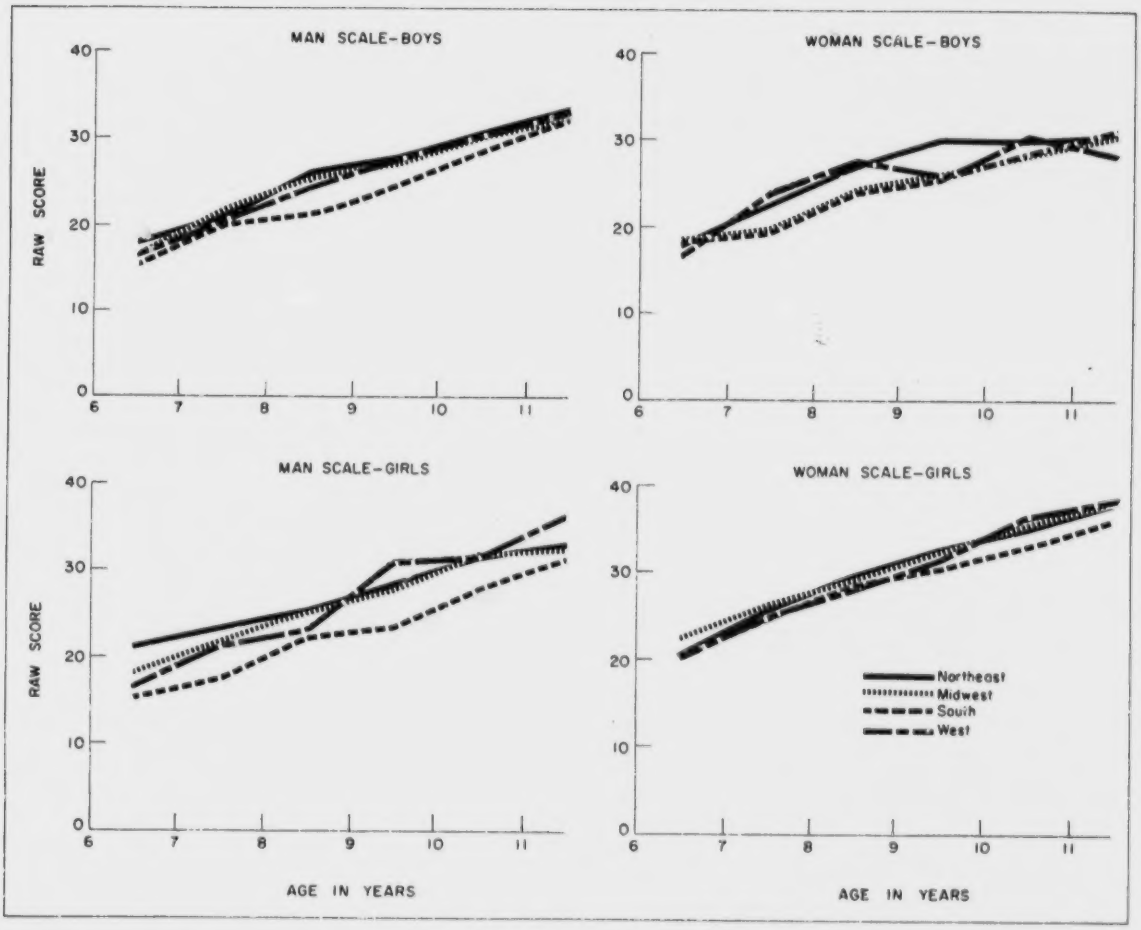

Figure 4. Average raw scores for boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region and age: United States, 1963-65.

Region by race.—Consideration of racial differences in intellectual maturity among the regions is limited to the two largest groups—drawings of a man by boys and of a woman by girls. The other groups for the Negro children are too small to produce consistently reliable estimates in this much detail.

Among white children no really consistent pattern of regional differences in this measure is evident. Boys in the South rated slightly but not significantly lower, on the average, on drawings of a man than those in other regions (tables 7 and 9). On drawings of a woman there is no consistent regional pattern among girls.

Negro boys in the South generally rated lower throughout the age range than those in other regions on drawings of a man (tables 8 and 9). In terms of raw and standard scores for all ages on each type of drawing and the combined ratings, mean scores for Negro children in the South are

substantially below those in the Northeast and Midwest. Those in the West rated nearly as low as those in the South. On the drawings of a woman, Negro girls in the South also generally rated lower than those in other areas. However, only those in the Midwest showed scores that were significantly higher.

Only in the South do white children consistently score higher than Negro children throughout the age range on like-sexed drawings (figures 5 and 6). In examining these figures it should be remembered that the standard error of the mean (which relates to the absolute size of the sample involved) determines which differences will be "statistically significant." As the groups become smaller, with crossed comparisons successively partitioning the data, the calculated mean values will fluctuate more. Hence psychological or sociological inferences become more questionable.

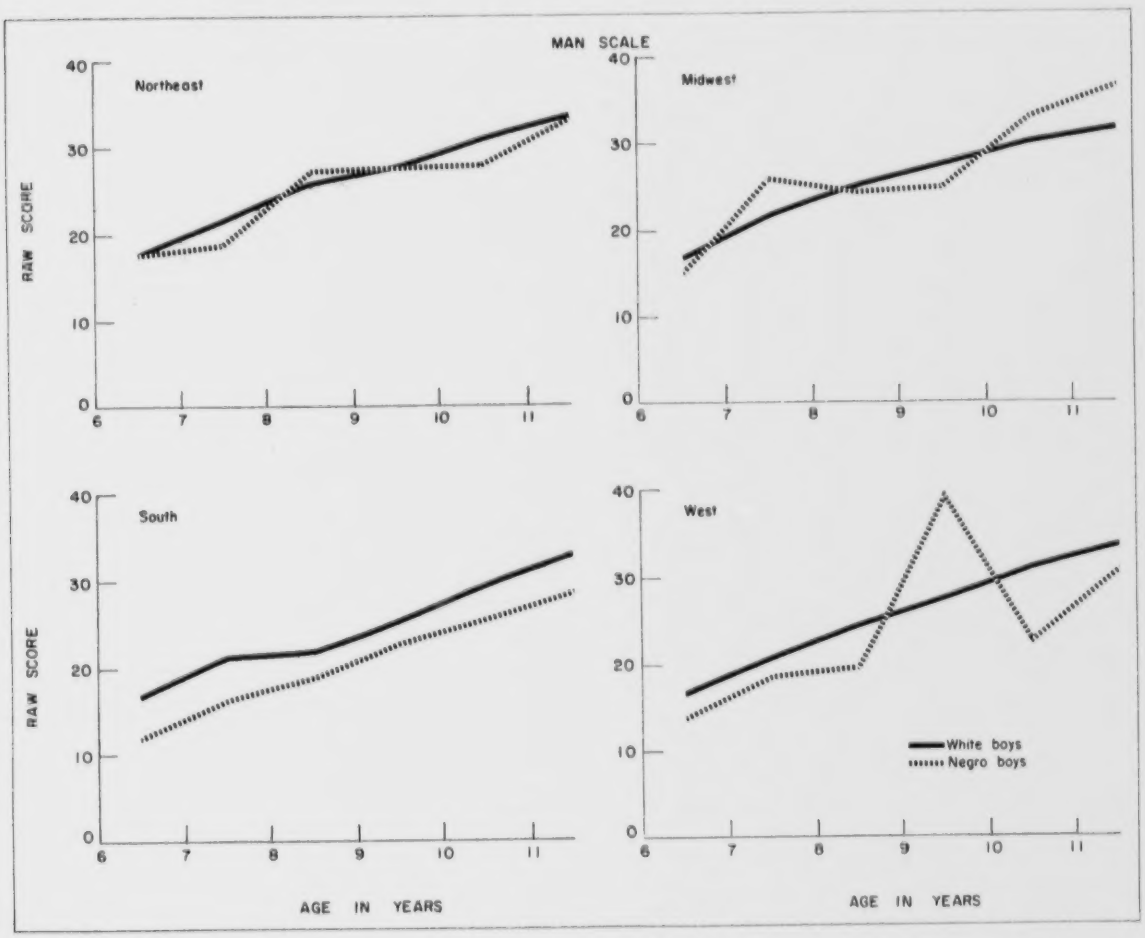

Figure 5. Average raw scores for white and Negro boys on the Man Scale of the Goodenough-Harris Drawing Test, by region and age: United States, 1963-65.

Size of Place of Residence

Children living in urban areas rated slightly higher in this test of intellectual maturity on the average—on both the man and woman drawings—than did those from rural areas in this country (tables 10 and 11). This urban advantage is evident at each year of age from 6 through 11 years except for the negligible difference in the opposite direction to be found among 8-year-olds on the woman drawings. In general, however, the differences were so small—less than 2 points—they could easily have been due to sampling errors alone. The amount of variation in scores, as measured by the standard deviations, was roughly of the same order of magnitude in urban and rural areas on either type of drawing.

Size of urban place of residence was not related systematically to intellectual maturity scores. While children in urbanized areas of

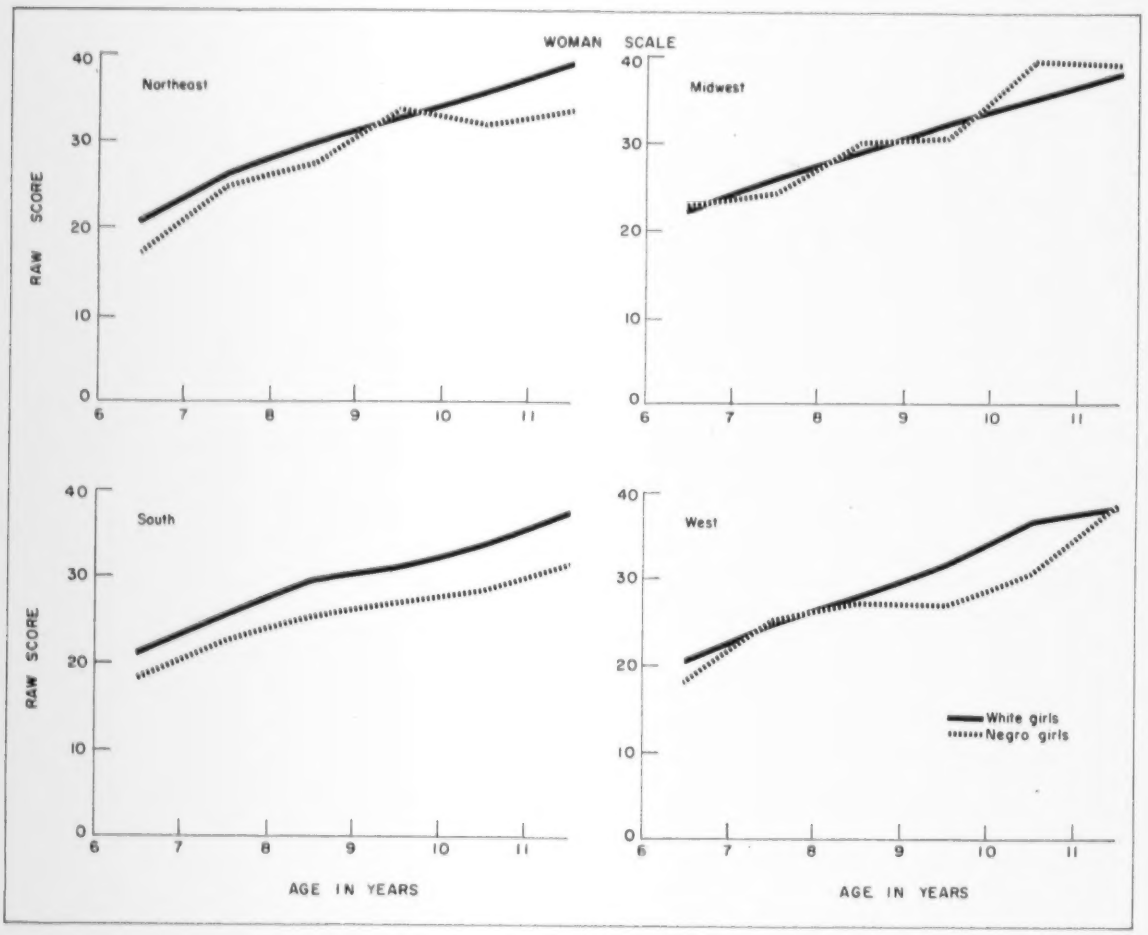

Figure 6. Average raw scores for white and Negro girls on the Woman Scale of the Goodenough-Harris Drawing Test, by region and age: United States, 1963-65.

250,000 or more performed somewhat better than those in smaller urban communities, their differences in ratings are not large enough to be consistently significant throughout the age range tested.

When the ratings of boys and girls are considered separately on the man drawings, both boys and girls in urban areas (combined) score just slightly higher on the average (less than 2 points) than their rural counterparts. Mean scores attained by boys and girls on the woman drawing show a similar trend of urban-rural differences except at 7 and 8 years for boys and at 8 years for girls.

Race.—Higher mean ratings of intellectual maturity for urban than for rural boys on the man drawings and girls on the woman drawings may be seen among both white and Negro children (tables 12-14). While the differences among the corresponding groups of Negro children throughout the age range appear larger than for whites, none for either race can be considered statistically significant.

White children, whether in urban or rural areas, on the average rate consistently higher at each year of age than do Negro children on this test.

The other two groups of drawings are too small to give as reliable estimates in this much detail, though ratings from them generally show a similar trend.

Region.—The pattern of urban-rural differences in ratings of intellectual maturity on this test, considered here for the two largest groups of drawings, are not consistent among the regions (tables 15 and 16). None of these urban-rural differences in the regions are large enough to have statistical significance nor do they show a consistent pattern by age.

Population change.—The extent and direction of change in the size of population within the various areas of residence from 1950 to 1960 may be considered an index to the economic stability of these communities. Places in which there is an above-average gain are more likely to be ones with a healthy economy, while those experiencing a loss tend to be communities with diminishing employment opportunities and resources for development. It is of interest here to determine whether or not this factor is reflected in the intellectual maturity of children residing in these areas.

Children in areas showing above-average gain in population obtained higher mean scores on this test throughout the age range than those in areas showing a smaller gain or a loss in population (tables 17-20). The one exception occurs on ratings of the woman drawing by boys, where no consistent pattern by age is evident among the types of places. On the man but not consistently on the woman drawings, children in those areas with a population loss tended to rate lower on this test than those in other areas; however, the mean differences are too small to be of significance.

The size of sample used in this survey was not large enough to produce reliable estimates of racial or regional differences in relation to the degree of population change.

Grade in School

In considering scores by grade in school from this test used as a rating of intellectual maturity, it should be kept in mind that the sample of examinees on which these national estimates are based is limited to children 6-11 years of age. Consequently the normal grade placements would range from first through sixth grade. Information from these grade levels can be considered to be representative of those groups of children in the population (table 21). However, neither the kindergarten nor the seventh grade groups are similarly representative of their respective classes—the former will be limited to the older and the latter to the younger children only in those respective grades.

Because the test is *age*-normed, study of grade groups is most logically done by reducing raw scores to standard scores for comparison purposes, as has been done elsewhere in this report. Table 22 and figures 7 and 8 present those data for the Man and Woman Scales. Quite consistently the modal group for the appropriate grade scores slightly above 100, as would be expected when children of lower maturity and achievement are sometimes held back 1 year or

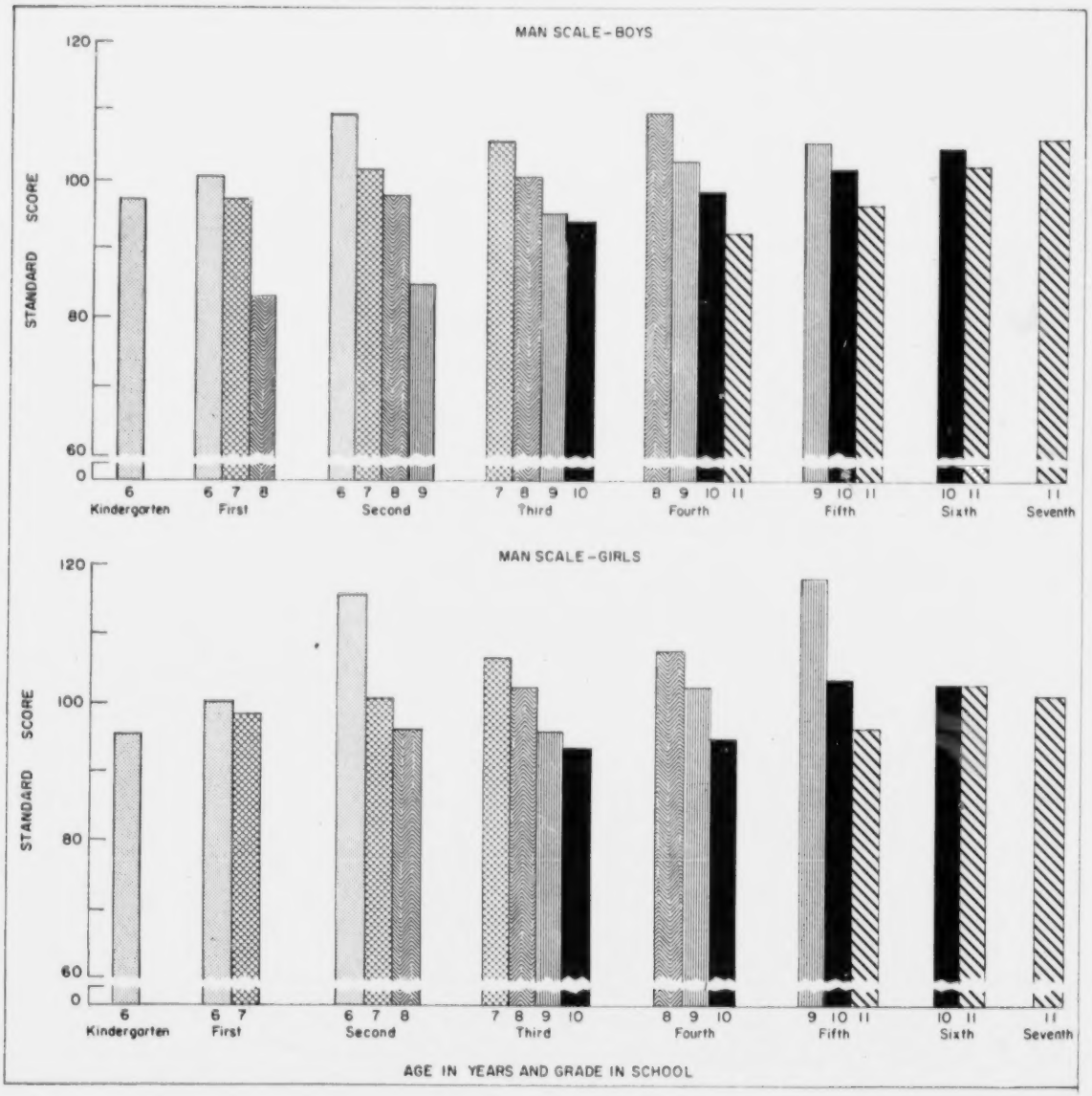

Figure 7. Average standard scores for boys and girls on the Man Scale of the Goodenough-Harris Drawing Test, by age and grade in school: United States, 1963-65.

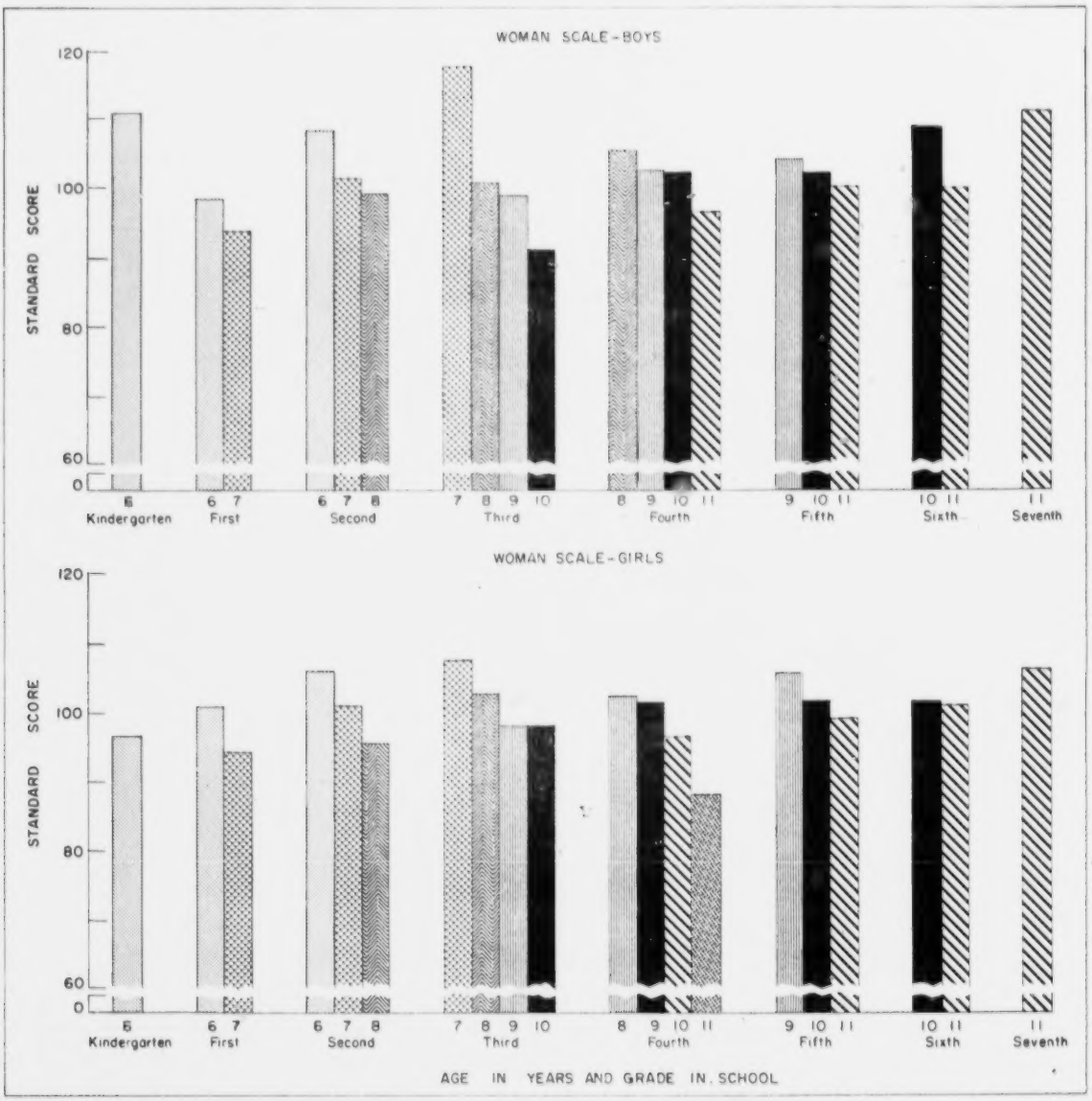

Figure 8. Average standard scores for boys and girls on the Woman Scale of the Goodenough-Harris Drawing Test, by age and grade in school: United States, 1963-65.

more. The children who are overage in a grade, and presumably held back for some reason, score below 100; the more years they are held back, the lower their average drawing scores. Likewise children who are accelerated a year or more score above the mode for the grade. These trends are quite consistent except occasionally, as noted, where the sample was too small to give a reliable estimate for that segment of the population. A similar pattern is evident when the two scales are combined (table 23).

Race and region.—The grade-related trends found for all children, for each drawing scale separately, are also apparent when the two scales are combined and the results broken apart by race. Table 24 presents such data in mean standard scores; figures 9 and 10 show the trends in terms of mean raw scores for each drawing. Almost without exception, in any grade there is a consistent decline in average score with increasing age. There is some tendency for Negro children 2 years or more overage for their grade in school to score higher than those only 1 year retarded in school. The trend is noticeable though not completely consistent. Among Negroes, as among whites, children accelerated, age-for-grade, in school score higher than those at grade-for-age.

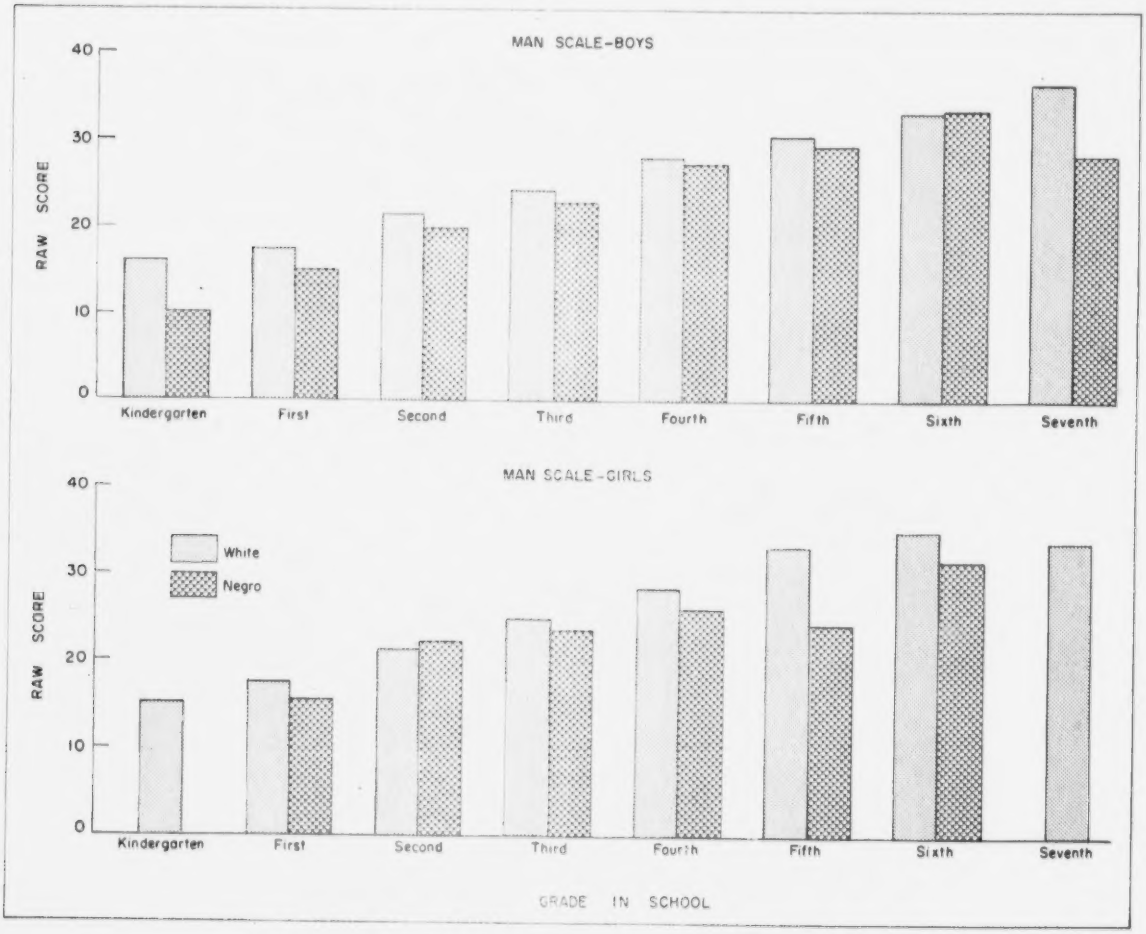

Figure 9. Average raw scores for white and Negro boys and girls 6-11 years of age on the Man Scale of the Good-enough-Harris Drawing Test, by grade in school: United States, 1963-65.

Children in the South throughout the various grades tend to rate slightly but not significantly lower on this test of intellectual maturity, on the average, than do those in the other regions on both the man and woman drawings (table 25).

Education of Parent

Intellectual maturity ratings on both man and woman drawings among children 6-11 years of age in the United States show a positive association with educational level of their parent (father, if living). Significant differences in mean scores are found at each year of age between those whose parent had less than 5 years of formal schooling and those whose parent had completed college or received some graduate or additional professional training (tables 26-28). The same pattern is found across the age range for boys drawing a man and girls drawing a woman and the differences are generally statistically significant.

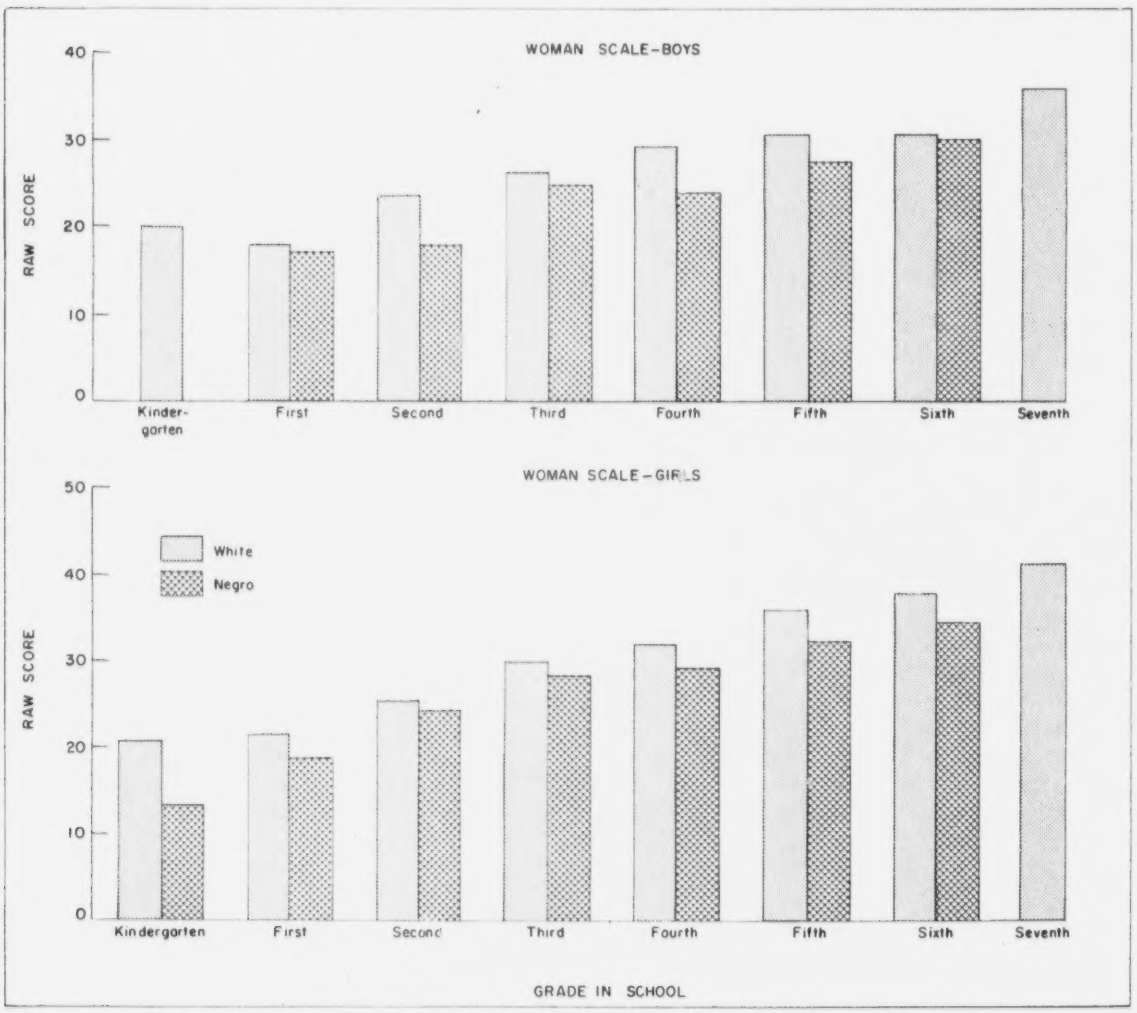

Figure 10. Average raw scores for white and Negro boys and girls 6-11 years of age on the Woman Scale of the Goodenough-Harris Drawing Test, by grade in school: United States, 1963-65.

While the trend is not completely consistent across the entire spectrum of education levels, the general pattern may be seen more clearly if the levels are combined into four broad groups—those with less than 5 years of formal schooling, those completing eighth grade, high school graduates, and those with some college graduate or additional professional training. Here there is a generally consistent increase in average scores among children from one educational level of the parent to the next at each year of age for three of the groups of children—boys on the man drawings and girls on the man and woman drawings show this same trend with few exceptions (figure 11).

Education of parent by race and region.—The relationship of intellectual maturity of children to the educational level of their parent is more distinct and consistent among white than Negro children (table 29 and figure 12). In general, average scores of white children exceed those of Negro children on either drawing of this test throughout the range of educational levels of the parent.

The racial differences among children in these scores can be considered statistically significant only among the more poorly educated, where the differences and the number of Negroes represented are both sufficiently large—those with less

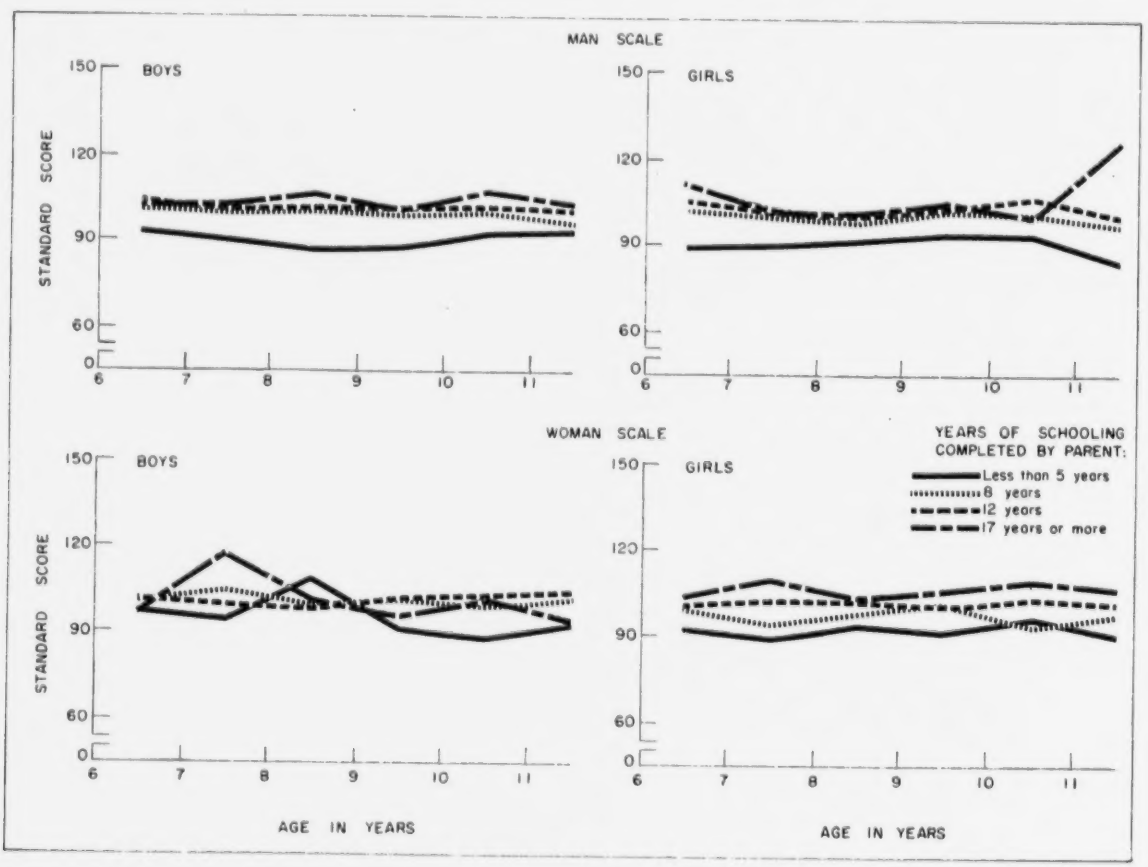

Figure 11. Average standard scores for boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by selected educational levels of parent and age of child: United States, 1963-65.

than 5 years of formal schooling and those who have completed the eighth grade. The trend by age tends to follow this pattern but is not uniformly consistent.

No really consistent pattern of regional differences is evident throughout the age range in the relation of intellectual maturity of children to the educational level of their parent (table 30).

Family Income

Ratings on this test of intellectual maturity for children 6-11 years of age, on the average, increased steadily with the amount of annual family income from those whose families were in the less than $3,000 bracket to those in the $10,000 to $14,999 bracket. Some leveling off is evident at

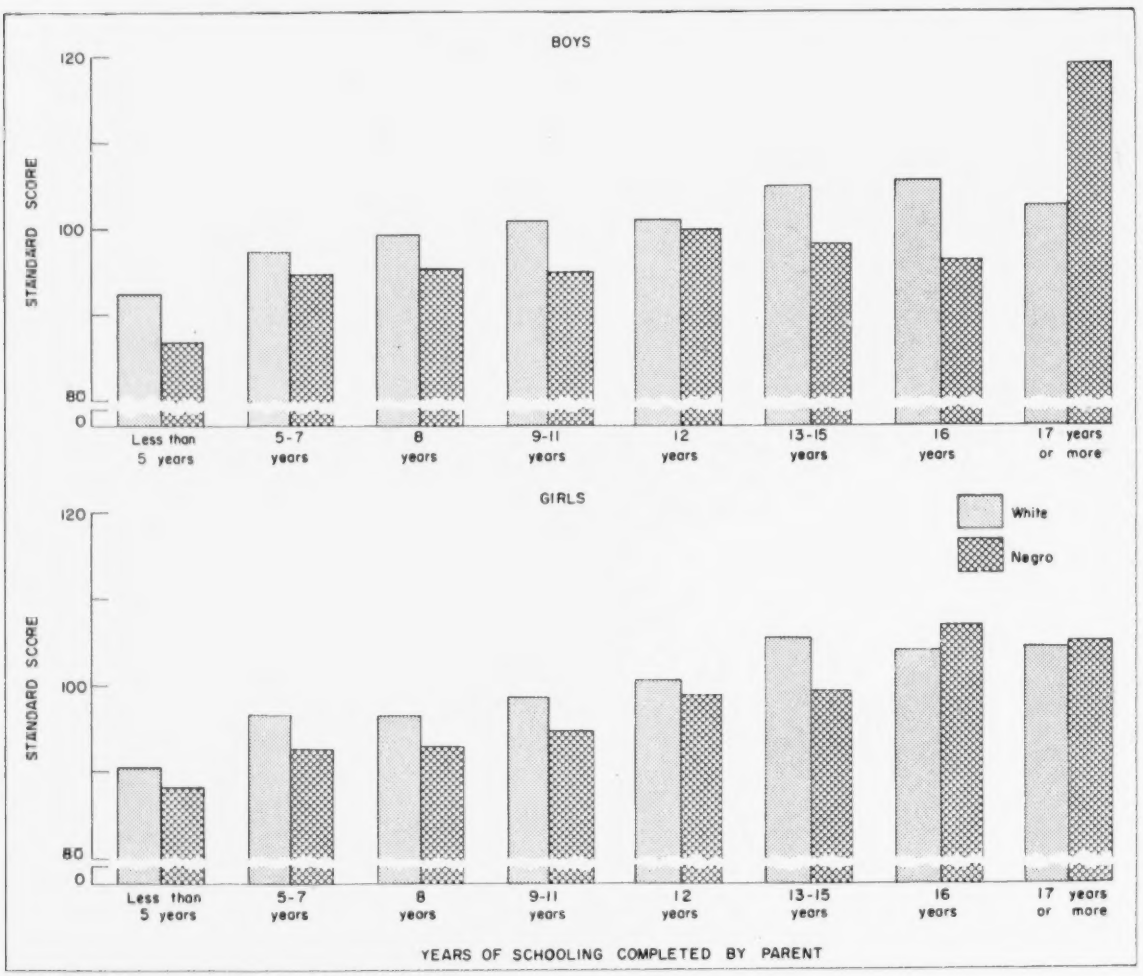

Figure 12. Average standard scores for white and Negro boys and girls 6-11 years of age on the Goodenough-Harris Drawing Test, by education of parent: United States, 1963-65.

the $15,000 or more level. The pattern was similar on ratings from both the man and woman drawings. In general, the differences in mean score between those in the lowest and those in the upper income levels were statistically significant throughout the age range of children tested (tables 31-33 and figure 13) even though the pattern of increase with income was not consistently maintained at each year of age over the entire range of income levels.

Family income by race.—Comparison is limited here to the two largest groups of drawings in the test—those of a man by boys and a woman by girls—since the number of Negroes is too small to provide reliable data on the other drawings in this detail.

A steady increase in average scores on this test of intellectual maturity with annual family income may be seen among both white and Negro boys and girls up through the $7,000-$9,999 bracket (table 34 and figure 14). While the trend continues into the next higher bracket for white children, it does not for the Negro groups. However, there are so few Negro children from families with incomes of $10,000 or more that this drop could easily be due to chance alone in a sample of the size and design used in this survey. A similar pattern may be seen in general, but not completely consistently, at each year of age.

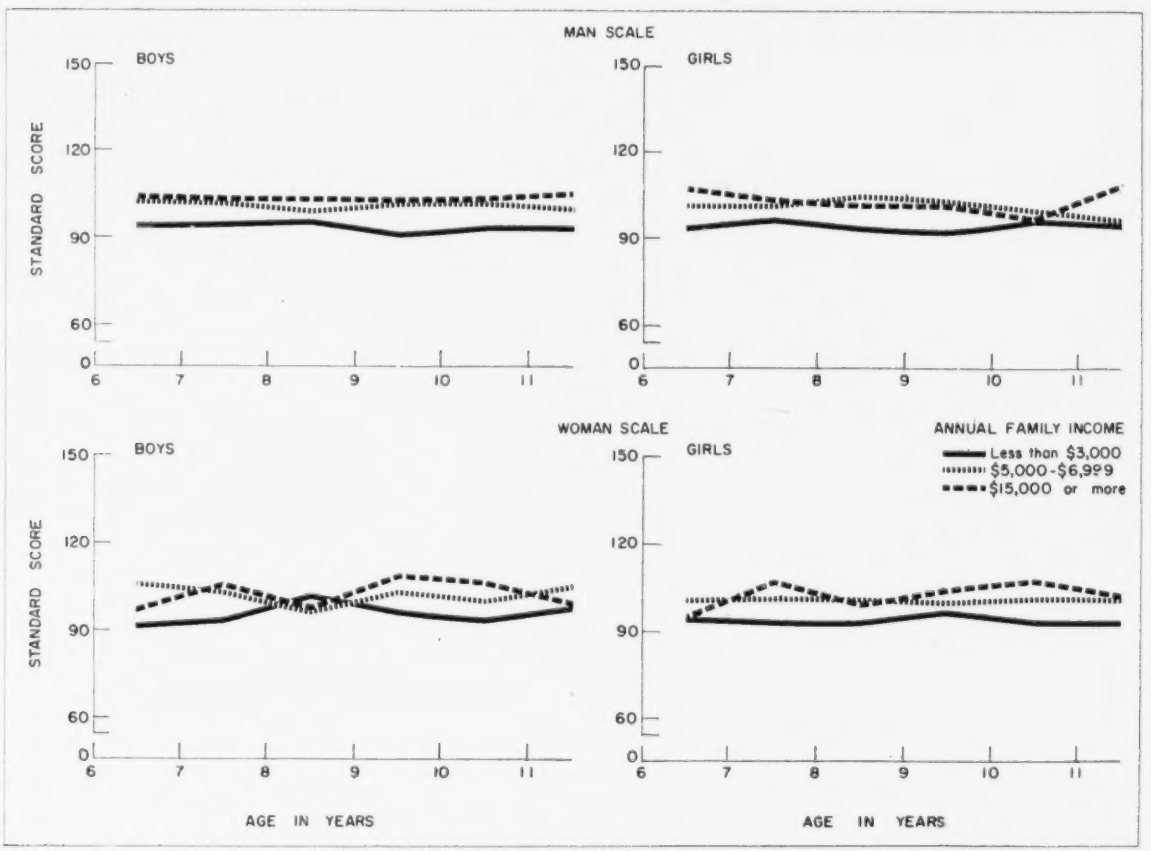

Figure 13. Average standard scores for boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by selected annual family income levels and age of child: United States, 1963-65.

White boys and girls consistently rate somewhat higher on this test than their Negro counterparts, though here again none of the differences are large enough to be considered statistically significant. Again the trend is apparent at each year of age with few exceptions that could easily be attributable to chance alone.

Family income by region.—The positive association of children's ratings on this test of intellectual maturity and the annual income of their families is found in each of the four regions of this country (table 35). Those in the lower income families tend to do less well than children in higher income families up through the $10,000-$14,999 bracket. No consistent pattern of regional differences is evident here even for the two largest groups—boys on drawings of a man and girls on drawings of a woman.

Relationships

Product-moment correlations were calculated between the standard scores obtained by these children on the modified Goodenough-Harris

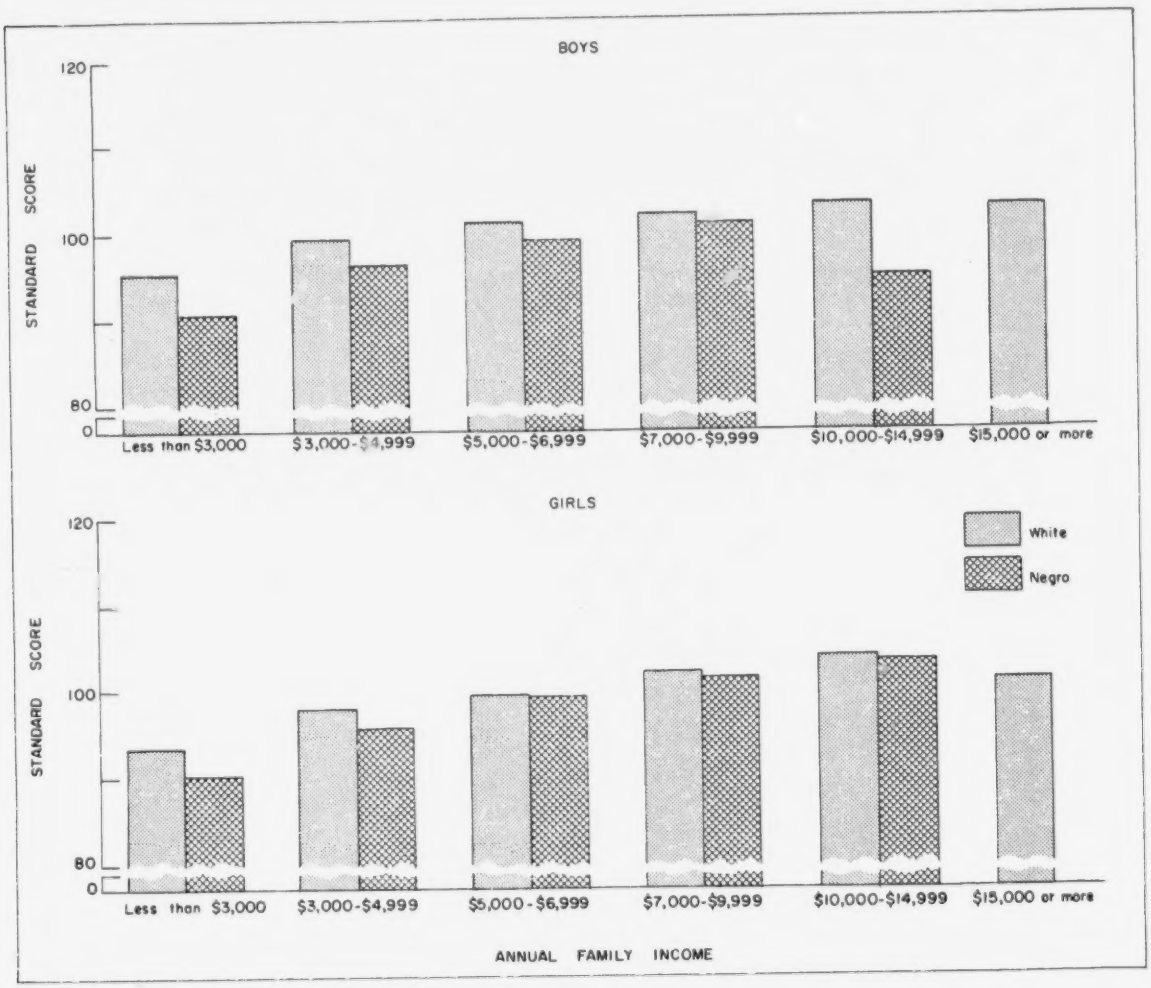

Figure 14. Average standard scores for boys and girls 6-11 years of age on the Goodenough-Harris Drawing Test, by annual family income and race: United States, 1963-65.

Drawing Test and the various demographic and socioeconomic factors in their background considered here. For the factor of race the coefficient was a biserial correlation (limited to white and Negro) and yielded a value of -0.14±0.029. With education of parent (father, if living in the home) the value was +0.24±0.019 and with family income the correlation was slightly less, +0.20 ±0.022. The multiple correlation of drawing test standard scores with all other factors (which was the "best" combination of education of parent and family income) raised the value only slightly to +0.27±0.022, a negligible gain over the simple correlation with education, primarily because of the strong association between income and education in the general population (+0.58±0.022) and the low correlation of test results with the other factors.

Certain partial correlations also shed light on the relationship between drawing test scores and these variables. The correlation between score and race drops to -0.07 ±0.020 when education of parent and family income are held constant. With education of parent the correlation drops to +0.15 ±0.029 when family income is held constant. With income, the value drops to +0.07 ±0.020 when education of parent is held constant.

It is evident that the degree of association (as measured for convenience by linear correlation techniques) between intellectual maturity of children and the various factors considered here was strongest with education of parent and nearly as strong with family income. The weaker relationship of this rating with race becomes very low to essentially negligible when the effects of education of parent and family income are held constant. Hence children of either race—white or Negro—from families in the higher socioeconomic strata were found to perform better on this test than those from more deprived backgrounds.

DISCUSSION

It is beyond the scope of this report to review the controversy on racial differences in intelligence. This controversy has had a long history and has recently been reintroduced into the literature of psychology and education.[10,11] One of the major problems with this controversy is that psychological theory with respect to the nature of intelligence has been inadequately developed.[12] So-called intelligence tests have been developed empirically, based largely on measurement of available populations under various conditions and not on theory derived from experimentally generated data. Thus theoretical discussions are based largely on inference from observations made under uncontrolled conditions. It is entirely possible that intelligence is so complex a phenomenon and a product of so many variables that a completely definitive answer, suitable to a positivistic science, will continue to be elusive.

Current thinking concerning intelligence generally holds that differences among people on this complex phenomenon are significantly the product of varying experiences. Most psychologists today would probably agree that intelligence is not unitary or monolithic in character but an aggregation of many abilities. Very few psychologists would hold that differences in test performance among races has a primarily biologic or genetic base.

While most psychologists would probably agree that intelligence is an aggregation of a variety of abilities, most would also probably agree that it has a structured or organized character. Most would probably also concur that this structure is hierarchical, that the composite abilities and performance change ontogenetically from a simple to a much more differentiated and complex and organized character. There is considerable agreement that in the development of this structure sensory-motor experiences are important at the outset but that early in development experience with language symbols becomes significant. The most comprehensive and well-constructed theory of intelligence now available is, of course, that of Piaget,[13] who developed his work along quite different lines and with a quite different methodology from the strictly empirically based American intelligence testing movement. The exact nature of the experiences and the manner in which particular experiences can be manipulated so as to maximize this growth is not fully known.

It is quite well recognized by psychologists that "intelligence" tests do not measure a pure, innate potential. While some psychologists insist that biologically derived components undoubtedly inhere in abilities, as in many other human characteristics, they understand that we measure only manifested, developed abilities or capacities. Therefore test performance inevitably reflects differential educational experiences and different familiarity with "test-taking." It is also generally understood that different segments of the population, with different experience of objects, language, and concepts, may find tests more or less "biased" against them.

It is often believed that nonverbal or performance measures of intelligence, where manipulation and problem solving relate to things, may be more generally "fair" across a diverse population than tests largely couched in language and conceptual terms. Yet even here we recognize limitations. Probably no "culturally free" or "culturally fair" test is wholly possible. The drawing test, based as it is on concepts of a familiar concrete visual form, the human body, may probably be regarded as less "culturally biased" than most.

With respect to the nature of intellectual development, two positions appear. One of these holds that there exists a maturational factor or component the development of which can be enhanced or impoverished by experience. This is commonly expressed as an interactional or transactional position which emphasizes the continuing interrelationship between environmental stimulation and the organism's learning and performance. The implication of this position is that individual differences in intellectual structure and attainment will always appear, even under maximizing conditions of learning.

The second position is that intellectual structure is the product of external factors mediated by a training or shaping process. Here the implication is that under optimal conditions of training individual differences would be minimal or nonexistent. This position is seldom stated in such an extreme fashion. The proponents of this position generally speak of a biologic or heritable organic factor (the precise character and its working remains unknown) contributing to development. But the discussions of this position generally proceed as if the ideal training program would largely control the developmental process, minimizing the organic factor.

Proponents of the former position could but do not always postulate racial differences in intelligence resting back on organic or biologic differences; the analogy to genetically based physical differences would be apropos. Proponents of the latter position would, of course, minimize the organic or biologic basis of any observed differences in test performances; they would find the obvious and large differences between the circumstances of learning experienced by representatives of various races and cultures sufficient reason for observed test differences.

Although derived empirically, as are other intelligence tests, some beginning has been made toward developing a theory for the Goodenough-Harris Drawing Test.[9] The argument has been offered that the test does measure in some degree the capacity to form concepts, particularly concepts of a concrete type, and that when the center of gravity in "intelligence" shifts toward abstract conceptual powers the test ceases to be an effective measure of intellectual growth. This point is assumed to occur somewhere in the early part of adolescence.

The present survey clearly shows that fewer racial differences appear on this measure than on other measures of intelligence.[1] This finding is in character with other evidence in the literature. For example, Anastasi and D'Angelo (1952)[14] showed that among 5-year-olds blacks performed slightly lower than whites on certain verbal measures but not on the Goodenough Draw-a-Man Test. Other literature reviewed by Harris (1963)[9] suggests that American Indian children perform at least as well and perhaps better than whites on drawing tests. The data of the present study derived from "other" races is in the direction of this finding. An excellent review of racial differences in intelligence test performance may also be found in Tyler, L. E., *The Psychology of Human Differences.*[15] Unpublished data of a quasi-experimental sort by Harris indicate two other conclusions concerning the drawing of the human figure as a measure of intellectual level. Tests given to a wide variety of nonliterate and educationally deprived children show that age

differences invariably appear,[16] suggesting that under circumstances of meager schooling (and even in its complete absence) some type of psychological development occurs such that the drawing test as presently standardized reflects a growth factor. Other studies with nonliterates show that practice with drawing medium permits a fairly rapid improvement of performance over a period of weeks. Moreover, there are some differences among types of practice. Simple exercises in drawing permit children to progress more rapidly than tracing pictures with the finger; the latter procedure, however, is better than tracing human figures with pencil on an onionskin overlay. His findings also show that schooling, even of a meager quality and limited largely to oral language, has a "total effect" that is appreciable. This effect is noticeable even when such primitive schooling is limited to 1 or 2 years. The consequence of such limited schooling is that drawing performance of groups with this minimal experience is considerably better than that of nonliterate, nonschooled groups with the special concentrated training of a few weeks' duration mentioned above.

The data of the present survey do provide some additional information with respect to certain longstanding questions. Again the discussion must be inferential. The apparent rural-urban differences suggest the advantage of the urban environment for the development of abilities reflected in the drawing test. Whether schooling is consistently better in cities than in rural areas is difficult to say. Likewise, it is difficult to say whether tests tend to favor urban as opposed to rural children. Generally, however, intelligence test performance tends to be slightly higher in urban and urbanized areas than in rural areas, especially in those areas known to provide meager schooling.[15] On the question of racial differences in intelligence test performance, in relation to the rural-urban question, a study by Tanser[17] found that urban whites scored higher than rural whites but that the reverse was true for blacks. The circumstances of this study (Ontario, Canada) have been regarded by Tyler[15] as "unusually favorable for research, since socioeconomic status has been more nearly comparable for Negro and white groups there than it is anywhere in this country, and there has been at least a serious effort to secure complete *educational* equality since 1890." In this study Tanser noted a discernible economic advantage of urban whites over blacks but believed such a difference did not exist for rural blacks as compared with rural whites. The present study shows that the advantage of the urbanized environment for drawing test performance operates for both racial groups.

As to both racial and regional differences in test performance, there has long been an argument that selective migration of more capable persons operates to bring about such differences. In the older literature this argument has been strongly debated and some evidence suggests that such may be the case.[15] The present data suggest that test performance is higher in localities gaining population. For whites this relationship is linear; that is, the higher the rate of population gain, the higher the test performance. With blacks the relationship is most clearly seen in areas of population loss, where children test noticeably lower than in areas of population gain. The linear relationship to rate of gain is not apparent in blacks. Whether this lack of trend is due to the considerably smaller number of blacks (and consequently greater unreliability of means) or whether migrations of blacks have been less systematically selective than those of whites cannot be affirmed with any confidence. If there is an association between quality of the environment and test performance, the present data may have something to suggest about the places people choose to *leave*.

The problem of the quality of education provided blacks vs. whites remains an issue. Serious efforts at equalization of educational opportunity have been so recent that presumed effects on abilities and achievement have not had time to make themselves fully felt throughout populations. If the quality of education afforded blacks is, as is frequently averred, consistently poorer than that afforded whites, the results of this study are as might be expected, but these data do not supply firm "proof" of any hypothesis. Whatever the experiences (presumably educational) are, which foster performance on the Goodenough-Harris Test, the South affords less of these for both blacks and whites than other regions of the

Nation. This finding is consistent with the general evidence that test performance is higher in those areas in which educational and economic indexes are higher.[18] Yet the interrelationship of economic, demographic, educational, and test performance variables is so complex that we cannot, from data presently available, speak authoritatively concerning the relative power of the several factors involved. The present data suggest, but only suggest, that education of parent may be a more powerful factor than family income. That is to say, a parent's attitudes as conditioned by his own education may be somewhat more influential in enhancing the test performance of his children than his own income per se.

SUMMARY AND CONCLUSIONS

This report presents estimates of the level of intellectual maturity of noninstitutionalized children 6-11 years of age in the United States in relation to key demographic and socioeconomic factors. The findings are based on scores obtained from a modification of the Goodenough-Harris Drawing Test administered to examinees in the Health Examination Survey of 1963-65. In this survey program, which was designed to assess health factors related to the growth and development of children, a probability sample of 7,417 children was selected to represent the 24 million noninstitutionalized children of this age in the United States. The total of 7,119, or 96 percent of the sample examined, were found to be closely representative of American children of this age with respect to age, sex, race, region, and other available demographic and socioeconomic variables.

The test on which these findings are based was given with the instructions to draw a person, the sex of the person drawn being left to the child. In this, the procedure differed from the standardized Goodenough-Harris procedure, with its instructions to draw a man and then a woman, the adaptation being made because of time limitations in the examination. The protocols so obtained were scored according to the Goodenough-Harris standards for the appropriate sex of the figure drawn.

An earlier report[8] contained general results from this modified test by age and sex. This report presents data by race and by selected demographic and socioeconomic variables. These national estimates of the intellectual maturity of children in 1963-65, as rated here and which are based on findings from one of the most scientifically designed, rigorous samples ever obtained for a psychological measure, show that:

1. On this test, while white children performed better than Negro children, the racial differential is lower than on the other two standardized psychological instruments used in the survey—the Wechsler Intelligence Scale for Children[1] and the Wide Range Achievement Test[2] — and is reduced to a negligible amount when the effects of differences in parent's education and family income are controlled.

2. The performance of Negro children 6-11 years of age for the country taken as a whole falls below white children by about one-third of a standard deviation, on the average. This difference is approximately that between the 39th and the 50th percentiles of a normal probability distribution to which, as shown previously,[8] the distribution of test results for all children in this study essentially corresponds. The (biserial correlation) degree of association between intellectual maturity and race (white-Negro) was found here to be -0.14, a significant but low-order relationship. The performance of "other" races combined on this test roughly corresponds to or exceeds that of whites, although the number of children from the "other" racial group is too small to provide reliable estimates for them.

3. The performance of children on this test does not differ appreciably among the four regions of the Nation (Northeast, Midwest, South, and West) except in the South, where on the Man Scale the white children tended to run slightly below whites in other areas and on both scales the Negroes noticeably fall below Negroes in other areas, the latter scores being significantly lower than those in the Northeast and Midwest.

4. Size of urban community or rural area of residence bears no marked, consistent relationship to test score; children from the larger cities tend to perform slightly better than those

from small community or rural areas. This tendency is more consistent for white than Negro children.

5. There is a slight but consistent association between drawing test score and rate of population change in the decade of the 1950's. Children in the communities gaining in size more than the national average consistently showed the highest average test scores; those from communities losing population consistently showed the lowest average scores. This was true for children of both major races. Similarly while this relationship was found in all regions of the Nation where the sample was large enough to produce reliable estimates, the trend was more noticeable in the South.

6. Children over the modal age for school grade do quite consistently more poorly on the Drawing Test than children below the modal age for school grade. Children at the modal age for grade yield consistently average performances. These findings held for children of both major races and in the Northeast, Midwest, and West. In the South the trend existed, but less clearly and less consistently. On the assumption that overage children are generally "held back" because of intellectual immaturity and poor performance, and that underage children have been accelerated for converse reasons, such data are often taken as evidence for the validity of a test which purports to measure intellectual maturity.

7. There is a consistent association between level of father's education and the general level of score attained by children. Mean scores for white children increased with the extent of education of their parents through the level of college and for Negroes through the level of high school. It is also found in each region of the Nation. In correlation terms the degree of relationship is expressed by a simple (zero-order) coefficient of +0.24.

8. There is noticeable increase in children's mean Drawing Test scores associated with increase in family income. The sharpest rise is between less than $3,000 and $3,000-$4,999; the trend continues, but more slowly, at higher income levels. This finding holds for Negroes as well as whites and in all regions of the Nation. In correlation terms, the degree of association is expressed by a simple (zero-order) coefficient of +0.20.

9. Clearly, across the population, high levels of income and parental education favor the development of the abilities measured by the Goodenough-Harris Drawing Test. The multiple correlation of test scores with all other factors considered here gives the best statistical combination, increasing the degree of association to +0.27, only slightly higher than that with father's education alone, primarily because of the strong relationship between income and education in the general population (+0.58).

10. Considering the above data and that the correlation with race ($r = -0.14$) drops to -0.07 when income and parental education are held constant, it is apparent that the generally lower levels of income and education still existing for the Negro at the time of this study, as contrasted with the white parent, probably account for a large part of the racial differences in intellectual maturity as measured by the modified Goodenough-Harris Drawing Test in this survey.

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LIST OF DETAILED TABLES

		Page
Table 1.	Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by age, race, and sex: United States, 1963-65	27
2.	Standard errors of estimate for average point (raw) scores for boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by race and age: United States, 1963-65	28
3.	Number of children 6-11 years of age, by region, race, place of residence, annual family income, and education of parent: United States, 1963-65	29
4.	Average standard scores for children on the Man and Woman Scales and combined scores from the Goodenough-Harris Drawing Test, by age, race, and sex, with standard errors for total averages: United States, 1963-65	30
5.	Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65	31
6.	Average standard scores for children on the Man and Woman Scales and combined scores from the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65	33
7.	Average raw scores for white children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65	34
8.	Average raw scores for Negro children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65	35
9.	Average standard scores for children on the Goodenough-Harris Drawing Test, by region, age, race, and sex, with standard errors for total averages: United States, 1963-65	36
10.	Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65	37
11.	Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex: United States, 1963-65	38
12.	Average raw scores for white and Negro children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by place of residence, age, and sex, with standard errors for total averages: United States, 1963-65	39
13.	Average standard scores for white children on the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65	40
14.	Average standard scores for Negro children on the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65	41
15.	Average raw scores for boys on the Man Scale and girls on the Woman Scale of the Goodenough-Harris Drawing Test, by region and age, with standard errors for total averages: United States, 1963-65	42
16.	Average standard scores for children on the Goodenough-Harris Drawing Test, by size of place of residence, region, age, and sex, with standard errors for total averages: United States, 1963-65	44
17.	Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65	46

List of Detailed Tables—Con.

Page

Table 18. Average standard scores for children on the Man and Woman Scales and combined scores for the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65---------- 47

19. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65---------- 48

20. Average standard scores for children on the Goodenough-Harris Drawing Test, by region, population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65-------- 49

21. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65---------- 50

22. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by grade in school, age, and sex: United States, 1963-65---------- 51

23. Average standard scores for children on the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65---------- 52

24. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65---------- 53

25. Average standard scores for children on the Goodenough-Harris Drawing Test, by grade in school, region, age, and sex, with standard errors for total averages: United States, 1963-65---------- 54

26. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65---------- 56

27. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by education of parent, age, and sex: United States, 1963-65---------- 57

28. Average standard scores for children on the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65---------- 58

29. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65---------- 59

30. Average standard scores for children on the Goodenough-Harris Drawing Test, by education of parent, region, age, and sex, with standard errors for total averages: United States, 1963-65---------- 60

31. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65---------- 62

32. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by annual family income, age, and sex: United States, 1963-65---------- 64

33. Average standard scores for children on the Goodenough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65---------- 65

34. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65---------- 66

35. Average standard scores for children on the Goodenough-Harris Drawing Test, by annual family income, region, age, and sex, with standard errors for total averages: United States, 1963-65---------- 67

Table 1. Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by age, race, and sex: United States, 1963-65

Age and sex	Man Scale							Woman Scale						
	Total		White		Negro		Other races	Total		White		Negro		Other races
	Average	SD	Average	SD	Average	SD	Average[1]	Average	SD	Average	SD	Average	SD	Average[1]
	Raw score													
Both sexes														
6-11 years	24.9	9.10	25.3	8.99	22.7	9.50	23.7	29.2	9.36	29.1	9.39	26.3	10.60	31.7
6 years	16.3	5.84	17.0	5.32	14.4	6.75	19.2	20.2	6.22	20.7	6.20	18.5	6.47	25.4
7 years	20.7	6.76	21.1	6.26	19.3	7.47	12.0	24.5	6.81	25.3	6.84	21.8	6.63	26.0
8 years	23.9	7.15	24.4	6.78	21.6	6.65	30.1	28.1	7.33	28.7	7.51	26.2	6.36	31.9
9 years	26.6	7.27	27.2	6.87	24.3	7.72	26.1	30.5	7.69	31.2	7.92	28.1	6.96	33.5
10 years	29.9	8.49	30.5	8.16	27.5	8.53	24.4	33.8	8.30	34.6	8.27	30.1	8.54	35.0
11 years	32.5	9.18	33.0	8.94	31.2	8.73	27.7	36.2	8.74	37.0	9.01	33.0	8.90	40.1
Boys														
6-11 years	24.9	9.02	25.3	8.88	22.7	9.76	25.1	25.3	8.73	26.0	8.09	22.1	7.39	-
6 years	16.3	5.50	16.9	5.18	13.9	6.27	22.8	17.6	4.77	17.7	4.57	18.4	4.69	-
7 years	20.6	6.57	21.2	6.23	18.9	7.84	12.0	21.2	6.43	22.9	6.06	16.3	4.32	-
8 years	23.8	6.82	24.4	6.62	21.2	6.52	30.1	25.5	6.50	26.2	6.42	24.0	6.06	-
9 years	26.5	7.16	27.1	6.86	24.4	8.10	26.1	26.4	7.64	27.5	7.82	22.2	3.32	-
10 years	29.7	8.35	30.3	8.11	27.8	9.06	24.4	29.3	8.49	30.2	8.03	24.9	9.03	-
11 years	32.4	8.92	32.8	8.83	31.4	8.86	32.8	29.9	7.90	30.6	7.50	27.9	8.80	-
Girls														
6-11 years	24.8	9.41	25.2	9.43	22.6	8.33	16.3	29.9	9.48	30.3	9.46	27.4	8.70	31.7
6 years	17.0	6.94	17.4	5.78	16.2	7.86	15.0	20.7	6.47	21.2	6.30	18.6	6.76	25.4
7 years	20.6	7.56	20.8	6.36	20.6	5.79	-	25.2	6.89	25.7	6.89	23.7	6.22	26.0
8 years	23.6	8.86	24.0	7.57	23.5	6.94	-	28.7	7.52	29.2	7.61	26.9	6.29	31.9
9 years	27.2	7.84	27.9	6.85	23.4	4.26	-	31.4	7.70	32.0	7.70	29.4	6.89	33.5
10 years	30.4	9.16	31.4	8.38	26.2	5.69	-	34.6	8.26	35.4	8.04	31.1	8.06	35.0
11 years	33.0	10.27	33.7	9.37	30.8	6.93	18.0	37.4	8.91	38.2	8.76	34.2	8.65	40.1

[1] The sample of children of other races was too small to give sufficiently stable estimates of standard deviations for publication.

Table 2. Standard errors of estimate for average point (raw) scores for boys and girls on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by race and age: United States, 1963-65

Scale and age	Total		White		Negro		Other races	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
	Standard error—raw score points							
Man Scale								
All ages 6-11 years	0.32	0.53	0.30	0.62	0.89	0.50	1.75	11.51
6 years	0.34	0.59	0.35	0.71	1.09	1.63	13.10	10.60
7 years	0.35	0.60	0.36	0.58	1.12	1.55	9.60	-
8 years	0.36	1.03	0.37	1.11	0.82	1.52	15.08	-
9 years	0.42	0.89	0.40	0.98	1.45	2.03	4.14	-
10 years	0.54	0.90	0.54	1.13	1.80	1.40	13.62	-
11 years	0.64	1.13	0.65	1.31	1.57	1.85	16.63	12.72
Woman Scale								
All ages 6-11 years	0.40	0.24	0.42	0.25	0.90	0.69	-	2.90
6 years	0.56	0.34	0.63	0.36	2.00	0.84	-	13.61
7 years	0.60	0.27	0.66	0.36	1.32	0.93	-	9.54
8 years	0.54	0.38	0.71	0.44	1.43	0.57	-	16.00
9 years	0.84	0.39	0.98	0.41	0.85	1.09	-	10.82
10 years	1.21	0.41	1.11	0.40	4.01	1.87	-	17.65
11 years	0.87	0.58	0.96	0.65	1.68	1.35	-	20.06

Table 3. Number of children 6-11 years of age, by region, race, place of residence, annual family income, and education of parent: United States, 1963-65

Characteristic	Children 6-11 years	Region				Race	
		Northeast	Midwest	South	West	White	Negro
	Number of children in thousands						
Total	23,784	5,357	6,763	5,750	5,912	...	...
Race							
White	20,403	4,716	6,112	4,153	5,420	...	...
Negro	3,271	626	619	1,597	428	...	...
Other	110	15	32	0	64	...	...
Place of residence							
Urban	15,554	4,075	4,578	2,876	4,025	12,873	2,625
Rural	8,230	1,282	2,185	2,874	1,887	7,530	646
Family income							
Less than $3,000	4,353	406	680	2,350	915	2,894	1,448
$3,000-4,999	4,248	801	1,135	1,129	1,183	3,347	898
$5,000-6,999	5,297	1,470	1,662	904	1,260	4,765	480
$7,000-9,999	4,816	1,297	1,688	633	1,197	4,556	250
$10,000-14,999	2,782	731	1,025	327	698	2,744	29
$15,000 or more	1,086	315	326	200	243	1,075	-
Unknown	1,198	335	244	204	413	1,020	164
Education of parent							
Less than 5 years	1,673	134	77	955	506	1,209	463
5-7 years	2,225	374	310	1,165	375	1,439	778
8 years	2,597	466	984	565	582	2,281	316
9-11 years	4,671	1,234	1,481	967	988	3,810	823
12 years	7,295	1,745	2,538	1,087	1,925	6,643	626
13-15 years	1,867	451	570	282	562	1,781	86
16 years	1,823	475	459	311	576	1,769	42
17 years or more	1,306	425	278	286	316	1,268	26
Unknown	321	50	63	128	78	198	108

Table 4. Average standard scores for children on the Man and Woman Scales and combined scores from the Goodenough-Harris Drawing Test, by age, race, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Man Scale			Woman Scale					
	White	Negro	Other races	White	Negro	Other races	White	Negro	Other races
	Standard score						Combined score		
Both sexes									
6-11 years	---	---	---	---	---	---	100.3	94.6	100.2
6 years	102.0	95.2	112.0	101.1	96.2	112.8	100.0	94.0	111.8
7 years	101.2	96.8	81.0	101.6	93.8	103.0	100.2	94.8	97.4
8 years	100.8	95.4	113.2	101.4	96.6	107.8	100.1	95.1	114.9
9 years	101.4	95.6	99.2	101.4	95.4	106.0	100.5	94.8	105.3
10 years	101.5	96.4	90.4	101.2	93.4	102.0	100.7	94.0	104.7
11 years	101.0	98.4	98.2	101.0	95.1	107.1	100.7	96.3	98.5
Boys									
6-11 years	---	---	---	---	---	---	101.0	95.0	99.7
6 years	101.7	93.7	117.6	100.1	102.2	-	100.7	93.8	117.8
7 years	101.4	95.8	80.0	103.8	88.6	-	101.1	93.6	79.3
8 years	101.2	94.4	114.2	101.4	97.0	-	100.5	94.0	112.9
9 years	101.2	95.8	99.2	102.0	91.4	-	101.1	94.5	99.2
10 years	101.3	96.6	90.8	101.4	91.9	-	101.0	95.8	89.5
11 years	100.6	98.4	100.6	101.2	95.8	-	101.2	98.2	101.3
Girls									
6-11 years	---	---	---	---	---	---	99.7	94.3	100.6
6 years	100.8	98.4	96.0	101.4	95.2	110.8	99.3	93.9	101.6
7 years	100.6	100.2	-	101.4	96.4	102.0	99.1	95.5	101.4
8 years	101.0	100.0	-	101.4	96.8	106.8	99.6	95.6	106.8
9 years	101.8	92.8	-	101.0	95.8	104.0	99.8	94.8	103.2
10 years	101.8	93.2	-	101.4	93.2	101.0	100.3	91.9	100.6
11 years	100.7	96.8	78.0	101.4	94.4	104.2	100.0	93.8	91.1
	Standard error								
Both sexes 6-11 years	0.54	1.04	4.09	0.54	1.04	4.09	0.54	1.04	4.09

Table 5. Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Man Scale							
	Northeast		Midwest		South		West	
	Average	SD	Average	SD	Average	SD	Average	SD
	Raw score							
Both sexes								
6-11 years	26.0	8.48	25.6	8.75	22.9	9.52	25.1	9.30
6 years	18.2	5.77	16.9	5.04	15.5	5.58	16.4	5.82
7 years	21.4	5.98	21.8	5.90	19.5	7.29	20.6	6.49
8 years	25.8	6.28	24.8	6.44	21.2	6.87	24.1	6.89
9 years	27.6	6.43	27.2	7.31	24.2	7.40	28.4	6.08
10 years	30.7	7.08	30.6	8.63	28.4	8.78	30.3	8.22
11 years	33.1	8.81	32.1	8.16	32.0	10.03	33.8	8.67
Boys								
6-11 years	25.8	---	25.5	---	23.1	---	25.2	---
6 years	17.7	---	16.5	---	15.5	---	16.4	---
7 years	21.0	---	21.8	---	20.0	---	20.5	---
8 years	25.9	---	24.8	---	21.0	---	24.3	---
9 years	27.5	---	27.0	---	24.5	---	27.9	---
10 years	30.5	---	30.3	---	28.6	---	30.1	---
11 years	33.2	---	32.0	---	32.2	---	33.3	---
Girls								
6-11 years	26.7	---	25.9	---	21.9	---	24.8	---
6 years	21.0	---	18.1	---	15.3	---	16.6	---
7 years	23.2	---	21.6	---	17.5	---	21.3	---
8 years	25.4	---	25.1	---	22.3	---	23.0	---
9 years	28.3	---	28.0	---	23.4	---	31.2	---
10 years	31.6	---	31.8	---	27.9	---	31.3	---
11 years	32.9	---	32.5	---	31.3	---	36.3	---
	Standard error							
Boys 6-11 years	0.53	---	0.39	---	0.99	---	0.74	---
Girls 6-11 years	1.03	---	0.84	---	1.09	---	1.89	---

Table 5. Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Age and sex	Woman Scale							
	Northeast		Midwest		South		West	
	Average	SD	Average	SD	Average	SD	Average	SD
	Raw score							
Both sexes								
6-11 years	29.1	9.48	29.9	8.98	28.2	9.36	29.4	9.57
6 years	19.9	6.20	22.1	5.99	19.8	6.30	20.0	6.40
7 years	25.4	6.90	25.4	6.78	23.4	7.38	24.7	6.36
8 years	29.1	7.29	28.4	7.26	27.6	7.48	28.1	7.46
9 years	32.4	7.90	31.3	7.19	29.1	7.86	30.5	8.08
10 years	34.2	8.56	34.6	8.49	32.1	8.94	35.3	7.29
11 years	36.9	8.89	36.9	8.76	34.8	9.04	37.4	9.57
Boys								
6-11 years	26.0	---	25.1	---	24.5	---	25.8	---
6 years	17.9	---	18.4	---	18.1	---	16.6	---
7 years	22.6	---	19.9	---	19.2	---	23.9	---
8 years	27.1	---	24.5	---	24.4	---	27.3	---
9 years	30.1	---	26.1	---	25.4	---	26.2	---
10 years	30.0	---	28.2	---	30.4	---	28.6	---
11 years	30.5	---	30.5	---	28.2	---	31.2	---
Girls								
6-11 years	29.7	---	30.7	---	29.1	---	30.0	---
6 years	20.3	---	22.7	---	20.2	---	20.4	---
7 years	25.9	---	26.1	---	24.5	---	25.0	---
8 years	29.5	---	29.3	---	28.4	---	28.2	---
9 years	32.8	---	32.2	---	30.1	---	31.5	---
10 years	35.1	---	35.5	---	32.6	---	36.3	---
11 years	38.3	---	38.3	---	35.9	---	38.5	---
	Standard error							
Boys 6-11 years	0.69	---	0.70	---	0.79	---	0.96	---
Girls 6-11 years	0.59	---	0.69	---	0.52	---	0.72	---

Table 6. Average standard scores for children on the Man and Woman Scales and combined scores from the Good-enough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Man Scale				Woman Scale				Combined score			
	Northeast	Midwest	South	West	Northeast	Midwest	South	West	Northeast	Midwest	South	West
Both sexes	Standard score								Combined score			
6-11 years	---	---	---	---	---	---	---	---	101.2	100.5	96.5	100.0
6 years	104.6	101.7	98.0	100.5	98.8	104.6	98.6	99.3	101.1	101.2	96.9	98.2
7 years	102.0	102.6	97.0	100.1	101.8	101.8	98.0	100.6	100.8	101.0	96.5	99.4
8 years	103.6	101.8	94.6	100.2	102.2	101.0	99.2	100.8	102.0	100.5	95.8	99.1
9 years	102.4	101.6	95.6	104.0	104.0	101.6	97.2	100.2	102.2	100.3	95.7	101.3
10 years	102.1	101.8	97.5	101.2	100.6	101.4	97.4	102.8	100.7	100.7	96.7	101.0
11 years	101.2	99.2	99.2	101.8	101.0	101.0	97.8	102.0	101.0	99.9	98.0	101.9
Boys												
6-11 years	---	---	---	---	---	---	---	---	102.1	100.6	97.1	100.7
6 years	104.1	100.5	97.5	100.2	100.7	102.2	101.3	96.8	102.6	100.2	97.6	99.2
7 years	101.0	102.6	99.0	100.0	103.2	96.8	95.4	106.7	100.7	101.6	97.4	100.2
8 years	104.8	102.4	94.0	100.9	103.3	98.0	97.8	103.9	103.6	100.6	93.6	100.6
9 years	102.0	101.0	96.0	102.8	107.2	99.2	97.8	99.4	102.6	100.6	96.0	101.9
10 years	101.5	101.3	98.2	101.1	101.0	98.4	101.8	99.2	101.2	100.6	98.9	100.3
11 years	101.4	99.0	99.4	101.6	101.0	101.0	96.4	102.4	101.6	100.0	99.6	102.1
Girls												
6-11 years	---	---	---	---	---	---	---	---	100.3	100.4	95.8	99.2
6 years	109.0	102.2	96.6	99.2	98.9	104.4	98.6	99.2	99.3	101.9	95.9	97.2
7 years	105.4	102.2	94.0	101.6	101.8	102.2	98.5	100.0	100.6	100.3	95.3	97.8
8 years	103.2	102.3	97.6	99.0	102.0	101.6	99.8	99.4	100.6	100.1	97.9	97.2
9 years	102.3	102.0	92.8	107.4	102.6	101.4	97.2	100.0	101.4	99.9	95.2	100.3
10 years	102.2	102.6	95.8	101.6	101.1	101.5	96.2	102.6	99.6	100.5	94.7	101.6
11 years	99.9	99.5	97.6	104.6	101.6	101.6	97.8	102.0	100.1	99.5	96.3	101.3
	Standard error											
Both sexes 6-11 years	0.50	0.83	1.25	1.32	0.50	0.83	1.25	1.32	0.50	0.83	1.25	1.32

Table 7. Average raw scores for white children on the Man and Woman Scales of the Good-enough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65

Sex and age	Man Scale				Woman Scale			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West
	Raw score							
Both sexes								
6-11 years	26.1	25.5	23.9	25.3	29.2	30.0	29.7	29.6
6 years	18.1	17.1	16.6	16.6	20.2	22.0	20.7	20.2
7 years	21.7	21.6	20.3	20.9	25.8	25.7	24.8	24.8
8 years	25.9	24.8	22.0	24.3	29.5	28.5	28.8	28.2
9 years	27.7	27.4	25.0	28.3	32.4	31.5	30.3	30.8
10 years	31.0	30.3	29.7	31.2	34.7	34.7	33.7	35.7
11 years	33.4	31.8	33.1	34.1	37.5	37.0	36.7	37.4
Boys								
6-11 years	25.9	25.3	24.3	25.4	26.2	25.7	30.7	31.2
6 years	17.7	16.7	16.7	16.6	17.8	18.4	18.4	16.1
7 years	21.2	21.5	21.3	20.7	24.3	20.4	21.9	24.1
8 years	25.8	24.9	21.9	24.5	27.6	24.8	24.3	28.0
9 years	27.5	27.2	25.4	27.7	30.5	26.3	27.1	26.6
10 years	30.9	30.0	29.5	31.0	29.8	29.6	32.2	28.6
11 years	33.2	31.6	33.1	33.6	29.7	30.8	30.7	31.2
Girls								
6-11 years	27.0	26.2	22.2	24.9	29.9	30.7	30.4	30.3
6 years	20.3	18.4	16.1	16.5	20.6	22.6	21.1	20.7
7 years	23.6	21.9	16.9	21.4	26.0	26.2	25.3	25.0
8 years	25.6	24.8	22.7	23.1	29.8	29.2	29.7	28.3
9 years	28.3	28.0	23.5	31.2	32.7	32.4	31.2	31.9
10 years	31.6	31.7	30.1	31.8	35.7	35.3	33.9	36.8
11 years	33.8	32.6	32.2	36.7	39.0	38.3	37.2	38.5
	Standard error							
Boys 6-11 years	0.56	0.41	0.83	0.84	0.76	0.63	0.79	1.14
Girls 6-11 years	0.98	0.79	1.51	2.06	0.53	0.70	0.52	0.86

Table 8. Average raw scores for Negro children on the Man and Woman Scales of the Good-enough-Harris Drawing Test, by region, age, and sex, with standard errors for total averages: United States, 1963-65

Sex and age	Man Scale				Woman Scale			
	North-east	Mid-west	South	West	North-east	Mid-west	South	West
	Raw score							
Both sexes								
6-11 years	25.3	26.7	20.3	22.1	27.9	29.4	24.5	26.5
6 years	19.1	15.9	12.3	15.0	17.8	23.4	18.3	19.0
7 years	19.7	24.8	17.0	19.1	22.9	23.5	20.6	25.3
8 years	26.9	25.5	19.3	20.9	26.9	29.3	25.3	27.4
9 years	28.1	25.5	23.1	39.6	33.9	30.3	25.6	26.7
10 years	28.2	33.0	25.7	22.8	32.6	35.7	28.1	31.1
11 years	32.3	38.2	29.1	31.6	34.6	37.7	30.3	41.0
Boys								
6-11 years	25.5	27.1	20.0	21.9	24.4	21.6	21.5	*
6 years	17.6	15.0	12.0	14.0	*	*	*	*
7 years	18.8	25.8	16.2	*	*	18.6	15.4	*
8 years	27.3	24.1	18.9	19.6	24.6	*	24.5	*
9 years	27.5	24.6	22.9	*	20.0	25.0	21.3	*
10 years	28.0	32.8	25.3	22.8	*	*	*	*
11 years	32.9	36.5	28.7	*	*	*	25.5	*
Girls								
6-11 years	24.3	24.5	21.2	*	28.5	31.3	25.4	27.0
6 years	*	*	13.1	*	17.2	*	18.2	*
7 years	*	*	20.4	*	24.8	24.7	22.5	25.2
8 years	*	*	20.4	*	27.3	30.1	25.3	27.4
9 years	*	*	23.1	*	33.9	30.8	27.0	27.0
10 years	*	32.6	25.2	*	31.9	*	28.5	*
11 years	*	38.5	28.2	*	33.7	39.1	31.5	38.9
	Standard error							
Boys 6-11 years	1.32	0.78	1.28	1.49	1.16	1.95	1.51	7.33
Girls 6-11 years	2.07	3.92	0.98	7.43	2.11	1.31	0.35	1.15

Table 9. Average standard scores for children on the Goodenough-Harris Drawing Test, by region, age, race, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	White				Negro				Other races			
	Northeast	Midwest	South	West	Northeast	Midwest	South	West	Northeast	Midwest	South	West
	Standard score											
Both sexes												
6-11 years	101.6	100.4	98.7	100.4	98.4	101.0	90.7	94.5	102.9	95.6	-	101.9
6 years	101.2	101.4	99.5	98.6	99.9	98.9	90.7	95.6	-	108.7	-	129.2
7 years	101.4	101.0	98.6	99.8	96.7	102.3	91.4	97.2	151.0	112.8	-	96.2
8 years	102.5	100.5	97.6	99.4	99.7	101.3	91.7	94.5	-	135.5	-	123.1
9 years	102.1	100.6	97.7	101.6	104.1	98.9	91.5	97.4	107.1	109.8	-	109.9
10 years	101.3	100.3	99.2	102.1	97.4	104.1	89.7	90.7	-	117.3	-	113.0
11 years	101.6	99.6	100.0	102.1	99.1	105.4	91.9	99.8	142.5	90.7	-	111.7
Boys												
6-11 years	102.3	100.5	99.6	101.2	100.1	101.3	90.8	94.1	-	94.6	-	100.9
6 years	102.6	100.5	100.5	99.5	103.2	96.8	89.5	94.4	-	-	-	117.8
7 years	101.7	101.1	101.0	100.9	93.4	106.4	88.4	94.2	-	99.0	-	53.0
8 years	103.7	100.9	95.0	101.0	102.6	97.7	90.6	91.9	-	-	-	112.9
9 years	102.8	100.9	98.2	101.8	100.8	95.9	91.8	104.0	-	91.0	-	103.9
10 years	101.7	100.3	100.8	101.6	97.7	102.8	92.3	87.4	-	-	-	89.5
11 years	101.4	99.5	101.6	102.5	103.0	105.0	93.4	97.5	-	-	-	101.3
Girls												
6-11 years	100.8	100.4	97.8	99.5	96.8	100.6	90.6	94.8	102.9	96.0	-	103.4
6 years	99.7	102.1	97.9	97.4	95.6	99.5	91.4	94.3	-	105.0	-	93.0
7 years	100.9	100.7	95.9	97.8	97.3	96.8	93.5	97.8	112.0	96.0	-	98.5
8 years	101.2	99.9	100.0	97.3	96.2	102.7	92.3	95.4	-	103.0	-	111.0
9 years	101.0	100.1	97.0	100.8	104.9	98.4	89.9	91.3	100.0	-	-	106.5
10 years	100.4	100.2	97.6	102.4	94.7	105.6	87.4	90.9	-	96.0	-	107.0
11 years	101.4	99.4	98.4	101.4	92.2	102.6	89.4	100.1	103.0	70.0	-	105.0
	Standard error											
Both sexes 6-11 years	0.45	0.89	1.24	1.58	1.27	0.89	1.05	2.28	51.52	31.03	-	6.59
Boys 6-11 years	0.56	0.81	1.38	1.51	1.97	1.40	2.04	3.33	*	47.36	-	7.71
Girls 6-11 years	0.89	1.16	1.15	1.76	2.69	1.36	0.55	1.76	51.52	31.70	-	6.03

Table 10. Averages and standard deviations (SD) of raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Total urban		Urbanized areas				Urban—outside urbanized areas			Rural areas	
	Average	SD	3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	Average	SD
Both sexes					Raw score—Man Scale						
6-11 years	25.4	---	25.3	26.8	25.9	24.4	24.2	24.7	24.3	24.1	---
6 years	16.9	5.63	17.2	18.7	15.9	15.0	17.3	15.6	17.7	16.3	5.60
7 years	21.2	6.51	21.5	23.0	20.9	21.4	19.9	21.0	19.1	20.3	6.41
8 years	24.3	6.22	24.7	24.7	24.3	23.6	24.0	24.8	24.6	23.5	7.82
9 years	27.4	7.14	26.9	28.6	29.7	25.8	26.5	28.3	26.9	25.9	6.77
10 years	30.2	8.10	30.0	31.1	32.2	29.4	27.6	29.8	30.8	29.8	8.63
11 years	33.2	8.89	33.1	34.6	34.0	32.5	31.8	32.4	32.6	31.8	8.95
Boys											
6-11 years	25.0	---	25.1	26.7	26.0	24.1	24.4	24.3	23.9	24.3	---
6 years	16.7	---	16.7	18.7	15.4	14.4	17.9	14.9	17.7	16.2	---
7 years	21.2	---	21.6	22.8	20.7	21.4	20.0	20.6	18.2	20.4	---
8 years	24.3	---	24.5	24.5	23.9	23.5	24.5	24.0	23.8	23.8	---
9 years	27.4	---	26.5	28.6	29.8	25.4	25.3	28.4	26.6	25.7	---
10 years	30.3	---	30.3	30.9	32.4	29.1	27.0	29.2	29.1	29.6	---
11 years	33.0	---	32.4	34.3	33.8	31.6	31.5	32.0	32.2	32.1	---
Girls											
6-11 years	25.0	---	26.1	27.1	25.6	25.6	23.5	27.1	25.6	23.4	---
6 years	18.1	---	19.8	18.2	17.1	16.8	15.9	23.4	17.4	16.5	---
7 years	21.5	---	20.7	24.8	21.6	20.5	19.2	21.0	21.5	20.2	---
8 years	25.5	---	25.4	25.4	26.1	22.0	22.5	29.0	27.4	21.9	---
9 years	28.8	---	29.4	27.9	27.8	28.2	33.4	26.0	25.9	26.8	---
10 years	31.0	---	27.1	32.0	30.7	28.7	29.0	29.4	36.4	30.8	---
11 years	35.0	---	36.0	35.5	34.4	35.4	31.3	32.3	32.8	30.7	---
					Standard error						
Boys 6-11 years	---	---	0.24	0.37	0.82	2.03	1.08	1.74	0.78	0.56	---
Girls 6-11 years	---	---	1.29	1.00	0.74	3.54	3.29	6.66	1.62	0.71	---
Both sexes					Raw score—Woman Scale						
6-11 years	29.2	---	30.0	29.7	29.7	27.9	27.5	28.2	29.4	28.9	---
6 years	20.6	6.04	21.2	22.1	21.0	19.1	17.6	21.5	20.3	20.0	6.82
7 years	25.1	7.20	26.0	24.7	24.5	24.8	25.5	26.5	24.6	24.1	6.34
8 years	28.2	7.27	28.2	29.1	29.2	27.1	26.2	26.8	29.4	28.6	7.63
9 years	31.0	7.75	32.5	30.9	30.8	29.2	29.8	28.9	31.1	30.4	7.99
10 years	34.3	8.16	36.2	34.2	34.2	32.5	33.8	32.1	35.0	33.4	8.89
11 years	36.9	8.77	36.8	37.8	38.1	37.5	37.2	35.9	35.4	35.6	9.58
Boys											
6-11 years	25.3	---	26.2	25.5	25.0	23.5	25.6	22.8	25.1	25.5	---
6 years	18.6	---	19.3	20.4	19.5	17.0	18.2	18.0	14.2	16.5	---
7 years	21.1	---	20.7	20.5	20.2	20.4	17.0	18.3	24.5	22.6	---
8 years	25.9	---	25.6	26.7	24.8	25.1	26.6	22.5	25.2	26.0	---
9 years	27.5	---	29.2	26.4	30.3	23.7	23.7	24.8	20.7	26.1	---
10 years	30.1	---	32.3	29.7	28.0	26.8	32.2	24.0	35.1	29.1	---
11 years	30.8	---	34.9	29.5	29.5	27.2	33.1	25.1	27.9	29.8	---
Girls											
6-11 years	29.9	---	30.5	30.4	30.5	28.8	27.8	29.4	30.2	29.7	---
6 years	21.1	---	21.5	22.2	21.1	19.5	17.1	21.7	21.6	20.5	---
7 years	26.0	---	26.9	25.5	25.8	25.7	26.0	27.6	24.5	24.4	---
8 years	28.9	---	28.9	29.4	29.5	27.3	25.8	27.1	30.0	29.3	---
9 years	31.8	---	33.1	31.7	30.6	30.0	30.5	30.4	31.9	31.6	---
10 years	35.4	---	36.8	34.6	35.4	33.9	34.0	34.1	34.7	34.2	---
11 years	38.3	---	36.9	39.0	38.7	39.5	37.8	37.1	38.1	36.8	---
					Standard error						
Boys 6-11 years	---	---	0.77	0.47	2.24	3.41	1.45	1.64	1.59	0.68	---
Girls 6-11 years	---	---	0.58	0.82	0.92	1.44	0.99	1.11	0.61	0.38	---

Table 11. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex: United States, 1963-65

Age and sex	Total urban	Urbanized areas				Urban—outside urbanized areas			Rural areas
		3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
Boys	Man Scale standard score								
6 years	101.1	101.1	106.4	97.2	94.8	104.7	95.8	104.1	99.6
7 years	101.4	102.2	104.6	100.4	101.8	99.0	100.2	94.4	99.8
8 years	100.9	101.5	101.5	99.8	99.0	101.5	100.0	99.6	99.6
9 years	101.8	100.0	104.2	106.6	97.8	97.6	103.8	100.2	98.4
10 years	101.3	101.3	101.9	104.8	99.2	95.0	99.4	99.2	100.2
11 years	101.0	99.8	103.3	102.6	98.6	98.5	99.0	99.4	99.2
Girls									
6 years	102.2	106.4	102.4	100.2	99.6	97.8	113.8	100.8	99.0
7 years	102.0	100.4	108.6	102.2	100.0	97.4	101.0	102.0	99.4
8 years	103.5	103.2	103.2	105.1	97.0	98.0	109.0	106.4	96.9
9 years	102.8	103.8	101.8	101.6	102.2	111.8	98.0	97.8	99.6
10 years	101.0	94.2	103.0	100.4	97.4	98.0	98.4	109.8	100.6
11 years	103.0	104.0	103.5	101.8	103.4	97.6	99.3	99.8	96.7
Boys	Woman Scale standard score								
6 years	102.8	105.2	109.2	106.0	98.0	101.6	101.0	89.6	96.5
7 years	100.2	99.1	98.5	97.6	98.2	90.0	93.6	108.0	103.2
8 years	100.8	100.2	102.4	98.6	99.2	102.2	93.0	99.4	101.0
9 years	102.0	105.4	99.8	107.6	94.4	94.4	96.6	88.4	99.2
10 years	101.2	105.6	100.7	98.0	95.6	105.4	91.0	110.2	100.1
11 years	101.6	109.8	99.0	99.0	94.4	106.2	91.2	95.8	99.6
Girls									
6 years	101.2	102.0	103.4	101.2	97.0	91.3	102.4	102.2	99.5
7 years	102.0	103.8	101.0	101.6	101.4	102.0	105.2	98.5	98.2
8 years	100.8	100.8	101.8	102.0	97.6	94.6	97.2	103.0	101.6
9 years	100.6	103.2	100.4	98.2	97.0	98.0	97.8	100.8	100.2
10 years	101.4	103.6	100.2	101.4	98.8	99.0	99.2	100.4	99.4
11 years	101.6	98.9	103.0	102.4	103.5	100.6	99.2	101.2	98.8

Table 12. Average raw scores for white and Negro children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	White				Negro			
	Man Scale		Woman Scale		Man Scale		Woman Scale	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
	Raw score							
Boys								
6-11 years	25.3	24.7	26.1	26.1	22.7	18.7	22.1	20.9
6 years	16.9	16.6	17.7	16.4	13.9	11.4	18.4	*
7 years	21.2	20.9	22.9	23.3	18.9	14.8	16.3	18.0
8 years	24.4	24.2	26.2	26.9	21.2	15.7	24.0	20.5
9 years	27.1	25.9	27.5	27.0	24.4	22.9	22.2	*
10 years	30.3	30.2	30.2	29.5	27.9	23.9	24.9	*
11 years	32.8	32.2	30.6	31.0	31.4	*	27.9	*
Girls								
6-11 years	25.2	23.7	30.3	30.1	22.6	19.9	27.4	25.1
6 years	17.4	16.6	21.2	20.8	16.2	14.7	18.6	16.9
7 years	20.8	20.3	25.7	24.7	20.6	*	23.7	22.1
8 years	24.1	22.0	29.3	29.5	23.5	21.6	26.9	25.6
9 years	27.9	27.0	32.0	31.8	23.4	20.2	29.4	27.7
10 years	31.4	32.2	35.5	34.4	26.3	23.4	31.1	30.2
11 years	33.7	31.0	38.2	37.6	30.8	*	34.2	29.8
	Standard error							
Boys 6-11 years	0.32	0.45	0.44	0.65	0.90	2.30	0.90	1.05
Girls 6-11 years	0.64	0.73	0.26	0.41	0.52	0.70	0.70	1.00

Table 13. Average standard scores for white children on the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Urbanized areas				Urban—outside urbanized areas			Rural areas
	3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
	Standard score							
Both sexes								
6-11 years	101.4	102.7	101.7	100.4	97.3	98.7	100.6	99.2
6 years	101.6	104.4	100.6	98.4	96.7	99.0	102.6	98.7
7 years	102.2	103.7	101.5	99.5	97.9	101.6	98.6	98.9
8 years	100.3	101.6	101.3	101.2	97.1	98.9	101.0	99.9
9 years	102.2	102.9	103.2	101.0	99.2	99.4	99.8	98.9
10 years	102.5	101.8	103.1	101.7	96.8	98.9	101.7	99.9
11 years	100.5	102.9	102.6	101.9	100.7	99.7	101.1	99.5
Boys								
6-11 years	101.3	103.6	102.3	100.5	99.0	98.3	100.4	100.2
6 years	101.1	105.8	98.8	98.4	102.9	95.4	102.8	99.8
7 years	101.6	105.0	101.7	102.2	97.0	98.6	97.5	100.8
8 years	100.5	101.8	99.8	101.7	101.0	98.5	99.5	100.3
9 years	101.0	103.4	108.1	101.6	97.7	101.1	99.8	99.0
10 years	102.8	102.1	104.0	99.7	96.5	97.4	100.9	100.7
11 years	100.8	103.8	101.9	100.0	101.0	100.6	100.6	100.5
Girls								
6-11 years	101.5	101.6	101.1	100.2	95.7	99.3	100.8	98.2
6 years	101.7	102.9	101.3	98.0	91.0	102.3	101.9	97.3
7 years	102.4	101.8	100.3	96.4	97.6	104.0	98.7	96.8
8 years	99.7	100.8	102.0	100.2	92.6	97.6	101.8	99.2
9 years	103.1	101.5	98.4	100.2	98.8	95.0	99.4	98.6
10 years	101.9	101.1	101.6	103.3	95.7	98.1	101.7	98.9
11 years	100.0	101.6	102.8	103.2	99.3	97.3	100.6	98.2
	Standard error							
Both sexes 6-11 years	0.37	0.42	1.66	1.65	2.40	2.12	1.41	0.72

Table 14. Average standard scores for Negro children on the Goodenough-Harris Drawing Test, by size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Urbanized areas				Urban—outside urbanized areas			Rural areas
	3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
	Standard score							
Both sexes								
6-11 years	99.7	95.9	95.7	88.7	94.2	95.8	88.6	89.0
6 years	101.7	100.0	93.8	88.1	*	105.8	84.6	89.5
7 years	99.1	95.3	94.3	100.3	*	*	87.0	90.6
8 years	100.2	97.1	96.3	89.9	95.0	96.0	100.3	89.1
9 years	100.9	98.5	99.3	87.1	100.0	*	91.9	91.2
10 years	99.7	93.9	97.8	87.3	-	*	93.4	89.2
11 years	99.9	102.1	101.6	93.1	81.0	94.8	86.6	89.3
Boys								
6-11 years	100.3	98.4	97.2	88.4	93.8	91.2	88.0	88.3
6 years	101.3	104.4	94.2	85.1	-	99.5	83.3	87.0
7 years	99.4	96.6	89.0	94.0	98.1	-	88.0	87.6
8 years	100.1	95.2	94.8	90.2	102.0	95.0	94.2	83.5
9 years	99.2	104.0	101.9	86.4	90.8	-	89.3	90.4
10 years	98.2	97.1	100.0	89.9	-	-	94.0	90.0
11 years	104.0	98.4	107.1	91.8	84.0	79.5	83.7	91.3
Girls								
6-11 years	99.2	93.5	94.2	89.0	95.2	99.3	89.2	89.8
6 years	100.4	95.6	90.4	88.6	101.0	112.0	85.9	90.2
7 years	97.6	90.1	97.4	102.1	-	95.0	85.0	92.0
8 years	99.2	97.6	95.8	88.3	88.0	97.0	108.0	92.5
9 years	101.4	90.3	92.9	86.3	110.0	98.0	94.0	90.9
10 years	100.8	88.0	92.0	81.8	-	85.0	91.9	87.2
11 years	96.4	105.5	95.6	87.4	78.0	110.0	89.6	86.1
	Standard error							
Both sexes 6-11 years	0.60	0.84	2.13	2.00	1.28	67.77	1.36	2.04

Table 15. Average raw scores for boys on the Man Scale and girls on the Woman Scale of the Goodenough-Harris Drawing Test, by region and age, with standard errors for total averages: United States, 1963-65

Region, scale, age, and sex	Total urban	Urbanized areas				Urban—outside urbanized areas			Rural areas
		3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
NORTHEAST				Raw score					
Man Scale—boys									
6-11 years	25.6	24.2	26.7	27.0	27.9	25.4	30.9	25.7	27.4
6 years	17.5	16.2	18.1	20.0	18.6	17.8	21.0	14.0	19.3
7 years	21.1	20.6	22.7	23.5	22.4	20.2	-	23.8	20.5
8 years	25.7	24.0	25.5	28.6	29.6	22.5	35.0	25.6	27.9
9 years	27.4	26.3	26.9	31.0	30.5	27.1	36.0	27.3	28.7
10 years	30.2	29.1	31.7	29.7	29.5	28.4	-	31.6	32.8
11 years	32.6	30.0	33.1	34.2	36.4	32.2	-	30.0	38.9
				Standard error					
Boys 6-11 years	0.53	0.32	18.90	19.06	19.74	3.58	21.81	8.67	1.55
Woman Scale—girls				Raw score					
6-11 years	29.7	29.6	29.0	33.4	31.9	26.6	29.2	27.7	29.9
6 years	20.3	20.8	20.9	25.0	20.0	16.3	-	19.4	20.0
7 years	26.1	26.7	25.6	29.8	26.0	24.6	20.0	28.0	24.1
8 years	29.3	28.8	28.1	30.7	32.9	30.7	27.5	30.0	31.1
9 years	32.7	32.3	32.3	35.0	38.8	28.5	33.0	35.3	34.0
10 years	35.3	35.8	34.2	43.5	38.3	21.4	-	30.0	33.1
11 years	38.1	36.2	40.3	34.1	41.3	42.7	33.5	-	40.5
				Standard error					
Girls 6-11 years	0.59	0.62	14.58	23.61	22.55	0.33	20.61	13.94	1.27
MIDWEST				Raw score					
Man Scale—boys									
6-11 years	25.6	25.7	27.1	23.9	26.1	25.3	23.9	25.4	24.9
6 years	16.5	16.5	17.5	12.6	15.6	18.6	14.3	21.4	16.2
7 years	21.9	22.9	24.3	19.1	20.9	22.1	18.6	14.7	21.2
8 years	24.8	25.2	25.2	23.0	23.7	24.6	24.3	21.2	25.2
9 years	27.1	24.9	29.9	28.0	27.7	21.3	25.3	32.1	26.3
10 years	30.4	31.3	31.5	30.5	32.3	28.4	29.7	27.4	29.4
11 years	32.1	35.1	33.9	27.8	29.9	33.7	30.0	30.0	31.2
				Standard error					
Boys 6-11 years	0.39	0.18	0.53	16.87	13.12	12.69	7.96	2.32	0.61
Woman Scale—girls				Raw score					
6-11 years	30.7	31.8	31.8	29.3	30.5	27.5	31.2	30.8	30.3
6 years	22.7	24.4	25.0	21.0	20.5	18.7	20.5	27.5	22.5
7 years	26.2	26.7	26.4	25.8	24.1	28.0	26.7	27.7	25.4
8 years	29.2	29.1	30.0	28.9	27.7	21.3	33.0	31.7	30.2
9 years	32.4	33.7	33.3	29.9	31.2	34.5	30.1	32.3	30.7
10 years	35.5	36.1	36.1	32.5	38.6	27.8	32.8	33.6	35.9
11 years	38.2	36.8	38.9	37.4	41.3	35.3	42.6	29.0	39.3
				Standard error					
Girls 6-11 years	0.69	1.03	1.28	20.69	15.26	13.76	9.92	1.32	1.36

Table 15. Average raw scores for boys on the Man Scale and girls on the Woman Scale of the Goodenough-Harris Drawing Test, by region and age, with standard errors for total averages: United States, 1963-65—Con.

Region, scale, age, and sex	Total urban	Urbanized areas				Urban—outside urbanized areas			Rural areas
		3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
SOUTH				Raw score					
Man Scale—boys									
6-11 years	23.2	-	26.2	27.3	20.9	25.2	22.2	23.8	22.0
6 years	15.4	-	20.3	13.7	13.4	23.9	13.6	15.5	16.0
7 years	20.1	-	19.8	22.6	20.8	24.0	20.8	19.0	19.2
8 years	21.1	-	22.6	21.4	19.9	23.7	19.7	22.9	20.2
9 years	24.6	-	29.9	30.0	21.2	28.0	31.0	22.8	23.3
10 years	28.8	-	30.8	34.5	25.7	26.0	26.0	31.9	26.8
11 years	32.5	-	37.1	35.7	31.3	28.3	30.9	32.8	29.9
				Standard error					
Boys 6-11 years	0.99	-	0.40	13.72	2.14	0.22	8.93	0.80	1.29
Woman Scale—girls				Raw score					
6-11 years	29.1	-	28.2	30.3	25.8	30.6	28.2	30.8	29.1
6 years	20.2	-	22.7	19.1	18.2	20.8	22.4	21.3	20.3
7 years	24.6	-	22.5	25.3	25.3	29.3	29.4	23.5	23.4
8 years	28.5	-	30.5	31.7	26.8	30.8	27.8	30.0	27.2
9 years	30.1	-	27.2	32.7	26.9	26.7	30.0	31.6	30.3
10 years	32.6	-	32.8	34.4	26.0	41.4	25.0	34.3	32.4
11 years	36.1	-	33.9	38.3	34.5	34.8	39.5	43.4	34.4
				Standard error					
Girls 6-11 years	0.52	-	1.18	15.28	1.01	0.49	11.77	1.03	0.65
WEST				Raw score					
Man Scale—boys									
6-11 years	25.3	27.3	26.3	26.1	24.3	22.0	26.2	23.3	24.5
6 years	16.7	18.9	20.0	16.9	5.5	10.3	16.5	17.9	14.1
7 years	20.4	22.3	20.8	20.8	22.0	15.3	22.0	17.3	21.4
8 years	24.3	24.0	24.1	24.3	21.4	26.6	24.5	24.8	24.5
9 years	28.1	30.4	27.5	30.4	28.0	26.0	27.0	24.8	26.3
10 years	30.0	32.2	28.9	33.3	28.2	24.9	32.3	26.7	30.8
11 years	33.5	36.5	34.6	35.0	29.2	28.8	34.9	32.4	31.6
				Standard error					
Boys 6-11 years	0.74	0.63	13.18	13.06	24.31	22.02	18.53	7.51	1.14
Woman Scale—girls				Raw score					
6-11 years	30.0	31.8	29.9	30.7	27.1	27.5	28.3	29.7	29.8
6 years	20.5	21.6	19.8	22.7	-	1.0	21.8	20.1	19.5
7 years	25.0	27.6	24.5	25.5	21.3	21.8	30.0	23.1	24.7
8 years	28.0	29.4	29.6	27.8	21.5	23.8	24.6	29.1	29.6
9 years	31.3	34.6	30.9	28.2	28.0	25.3	30.0	31.5	33.5
10 years	36.4	41.7	33.4	36.3	34.3	38.0	38.7	35.6	35.8
11 years	38.6	40.9	40.9	41.2	43.0	39.3	32.0	34.9	37.2
				Standard error					
Girls 6-11 years	0.72	2.00	14.99	15.35	27.11	27.46	20.03	9.46	1.06

Table 16. Average standard scores for children on the Goodenough-Harris Drawing Test, by size of place of residence, region, age, and sex, with standard errors for total averages: United States, 1963-65

Region, age, and sex	Urbanized areas				Urban—outside urbanized areas			Rural areas
	3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
	Standard score							
NORTHEAST								
Boys								
6-11 years	99.7	103.0	105.4	104.7	100.7	118.2	101.6	104.8
6 years	99.7	103.4	108.8	105.7	109.9	113.0	92.9	104.4
7 years	99.3	103.3	110.0	103.3	97.9	-	106.5	101.4
8 years	99.3	105.5	109.6	111.3	99.1	125.0	103.2	108.3
9 years	101.4	101.2	104.0	104.8	100.8	119.0	101.6	104.8
10 years	100.2	103.3	99.0	97.7	97.1	-	103.2	104.2
11 years	97.9	101.4	102.4	104.4	103.3	116.0	96.0	106.2
Girls								
6-11 years	99.9	99.6	104.7	104.0	96.0	98.6	100.5	100.6
6 years	100.7	99.7	109.0	98.6	90.3	112.0	96.8	98.1
7 years	100.8	100.1	107.0	101.6	97.2	89.0	101.7	99.9
8 years	99.1	98.4	104.3	106.2	102.1	98.0	100.0	102.8
9 years	101.4	102.5	107.0	109.0	94.3	104.0	107.6	100.5
10 years	99.7	97.7	111.2	104.8	75.9	-	95.5	98.5
11 years	97.0	102.0	95.8	106.3	101.5	93.0	-	103.8
	Standard error							
Boys 6-11 years	0.56	17.36	23.63	21.93	8.09	44.60	32.19	0.48
Girls 6-11 years	1.16	49.94	21.86	20.22	3.00	69.74	32.06	1.86
	Standard score							
MIDWEST								
Boys								
6-11 years	101.9	103.4	95.9	99.6	99.6	97.1	101.7	99.9
6 years	101.2	103.4	88.7	96.1	103.0	95.1	107.0	99.4
7 years	103.8	106.5	95.3	100.1	102.9	95.4	86.2	100.1
8 years	102.0	100.3	96.5	97.1	100.8	100.2	92.8	101.6
9 years	97.7	104.4	102.8	104.5	89.3	97.2	111.2	98.9
10 years	102.1	102.7	98.7	102.4	98.6	97.9	96.3	100.0
11 years	105.2	102.5	93.0	95.5	102.0	96.5	94.0	99.3
Girls								
6-11 years	101.0	103.0	97.9	100.8	95.5	101.2	100.5	99.7
6 years	103.8	106.6	98.1	98.8	95.7	100.5	112.0	101.1
7 years	100.4	102.4	99.3	97.4	99.9	102.9	105.3	99.1
8 years	100.5	102.4	100.1	98.0	84.2	105.0	106.3	100.6
9 years	103.1	102.4	95.4	99.4	106.4	95.4	92.2	97.6
10 years	100.4	103.0	95.1	107.0	86.3	96.8	98.8	101.1
11 years	98.6	101.7	100.1	102.2	91.7	108.3	87.8	98.7
	Standard error							
Boys 6-11 years	0.89	0.70	67.81	49.81	49.80	31.08	6.54	1.25
Girls 6-11 years	0.39	1.54	69.21	50.39	47.77	32.07	1.96	2.18

Table 16. Average standard scores for children on the Goodenough-Harris Drawing Test, by size of place of residence, region, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Region, age, and sex	Urbanized areas				Urban—outside urbanized areas			Rural areas
	3 million or more	1,000,000-2,999,999	250,000-999,999	Less than 250,000	25,000 or more	10,000-24,999	2,500-9,999	
SOUTH				Standard score				
Boys								
6-11 years	-	102.9	101.9	93.9	103.2	95.1	97.6	95.4
6 years	-	109.9	94.7	92.8	114.8	91.7	96.1	98.9
7 years	-	97.6	97.5	99.9	103.3	97.3	95.3	96.8
8 years	-	97.7	94.8	93.1	98.8	91.3	96.6	91.6
9 years	-	105.4	107.5	88.4	98.4	115.4	91.3	93.3
10 years	-	102.0	106.4	94.9	104.0	93.1	105.2	95.6
11 years	-	107.6	106.3	99.7	92.8	94.1	97.5	96.6
Girls								
6-11 years	-	97.1	99.7	92.2	101.1	97.7	100.1	94.0
6 years	-	102.0	96.2	93.4	100.0	104.1	96.6	94.3
7 years	-	94.9	98.4	98.5	106.6	104.2	94.6	91.4
8 years	-	102.4	107.0	94.6	92.0	98.4	102.9	94.6
9 years	-	88.2	99.1	90.2	90.4	92.6	100.6	95.2
10 years	-	95.8	98.6	82.9	108.2	84.1	100.1	94.0
11 years	-	97.3	100.0	92.4	98.4	90.5	107.4	94.1
				Standard error				
Boys 6-11 years	-	1.64	50.95	3.28	2.54	36.95	1.28	2.39
Girls 6-11 years	-	1.91	49.87	0.58	0.21	37.95	1.84	1.34
WEST				Standard score				
Boys								
6-11 years	104.5	102.6	103.0	95.2	93.1	100.1	99.4	99.8
6 years	107.3	109.4	100.7	77.0	85.6	100.0	102.6	93.1
7 years	102.3	99.7	101.4	102.8	86.9	102.5	96.9	102.6
8 years	100.2	100.4	100.3	93.6	105.6	97.2	101.9	101.4
9 years	105.0	103.0	108.2	99.3	98.3	91.8	94.4	100.8
10 years	104.5	98.8	104.9	95.8	92.3	101.0	97.2	101.4
11 years	108.8	103.4	104.1	94.9	94.2	104.7	101.5	100.0
Girls								
6-11 years	105.2	98.8	99.9	92.4	91.3	98.8	99.0	98.8
6 years	101.6	96.5	102.3	92.0	74.2	102.8	98.3	95.3
7 years	105.3	98.2	99.3	89.4	89.9	111.0	95.1	97.4
8 years	99.3	99.6	95.6	84.2	89.8	92.0	99.7	99.0
9 years	106.1	98.3	95.3	92.0	90.4	98.0	101.2	102.8
10 years	111.3	95.1	101.1	99.7	97.5	107.0	102.0	101.8
11 years	107.2	103.8	105.0	110.5	100.2	95.0	96.3	97.8
				Standard error				
Boys 6-11 years	0.87	51.30	51.49	63.77	60.56	3.74	31.53	1.75
Girls 6-11 years	3.04	49.40	49.94	59.41	57.69	69.82	31.34	2.42

Table 17. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Man Scale				Woman Scale			
	Rate of population change				Rate of population change			
	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain
	Raw score							
Both sexes 6-11 years	23.6	24.8	24.2	27.1	28.7	28.6	28.6	30.7
Boys								
6-11 years	23.9	24.9	24.2	26.8	24.9	26.1	24.2	26.0
6 years	16.2	16.6	15.6	17.8	16.8	17.1	19.1	18.0
7 years	20.2	20.0	20.4	22.8	22.9	19.6	20.7	22.3
8 years	23.5	24.1	23.3	25.4	26.1	26.2	24.6	26.5
9 years	25.4	26.6	26.6	28.3	27.2	27.4	26.1	26.0
10 years	29.2	29.4	29.7	31.5	27.4	32.0	27.8	31.2
11 years	30.1	33.2	32.0	35.6	28.2	32.1	30.8	30.3
Girls								
6-11 years	22.7	24.6	24.1	28.6	29.5	29.1	29.5	31.7
6 years	16.6	16.4	18.5	18.8	21.0	20.4	20.8	21.7
7 years	18.0	22.7	19.8	24.4	24.8	25.1	25.7	26.1
8 years	22.5	23.7	22.7	27.2	28.2	28.2	29.0	30.6
9 years	26.5	27.6	26.4	30.6	31.4	31.8	30.9	32.8
10 years	30.7	28.2	29.6	34.2	33.7	35.4	33.8	37.2
11 years	29.4	33.7	33.8	37.8	36.4	36.8	36.3	40.9
	Standard error							
Both sexes 6-11 years	0.85	0.50	0.71	0.32	0.41	0.43	0.50	0.58
Boys 6-11 years	0.85	0.50	0.79	0.37	0.98	0.89	0.98	0.58
Girls 6-11 years	0.88	1.08	0.69	1.04	0.63	0.62	0.83	0.65

Table 18. Average standard scores for children on the Man and Woman Scales and combined scores for the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Man Scale				Woman Scale				Rate of population change			
	Rate of population change				Rate of population change							
	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain
	Standard score								Combined score			
Boys												
6-11 years	---	---	---	---	---	---	---	---	98.3	100.0	99.0	103.3
6 years	99.6	100.8	97.8	104.4	97.4	98.3	104.4	101.0	98.8	99.8	98.2	102.9
7 years	99.4	99.0	99.8	104.6	103.8	96.2	99.1	102.6	99.5	97.6	99.0	104.0
8 years	99.0	100.3	98.6	103.8	101.2	101.4	98.2	102.0	98.6	100.0	97.9	102.4
9 years	97.8	100.2	100.2	103.6	101.4	101.8	99.2	99.0	97.9	100.5	99.8	102.7
10 years	99.4	99.8	100.4	103.0	96.8	105.0	97.6	103.4	98.4	100.2	99.3	103.1
11 years	96.2	101.4	99.0	105.2	96.4	104.2	101.6	100.6	96.4	102.1	99.9	104.9
Girls												
6-11 years	---	---	---	---	---	---	---	---	97.0	98.3	98.2	102.5
6 years	99.2	98.8	103.0	103.6	101.0	99.2	100.4	102.4	97.7	97.1	99.3	101.2
7 years	95.0	104.4	98.6	107.8	99.4	100.2	101.4	102.2	95.5	99.0	98.6	101.4
8 years	98.0	100.4	98.4	106.2	99.4	99.4	101.0	104.2	97.2	97.8	98.8	102.4
9 years	99.0	101.2	98.8	106.2	99.8	100.6	98.8	102.6	97.8	99.5	97.9	101.7
10 years	100.4	96.4	98.6	106.2	98.4	101.4	98.6	104.4	97.4	99.0	97.2	103.2
11 years	94.8	100.7	100.8	106.8	98.4	98.8	98.3	105.8	96.1	97.8	97.4	105.0
	Standard error											
Boys 6-11 years	1.51	1.02	1.35	0.24	1.51	1.02	1.35	0.24	1.51	1.02	1.35	0.24
Girls 6-11 years	0.98	1.18	0.92	0.99	0.98	1.18	0.92	0.99	0.98	1.18	0.92	0.99

Table 19. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	White				Negro			
	Rate of population change				Rate of population change			
	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain
	Standard score							
Both sexes 6-11 years	98.1	99.6	100.2	103.6	89.1	96.3	94.2	97.0
Boys								
6-11 years	99.0	100.4	100.6	103.8	86.6	97.2	94.3	98.9
6 years	99.1	100.1	101.0	102.9	90.2	95.5	90.6	102.9
7 years	101.1	98.7	100.0	104.6	85.1	90.4	95.4	99.8
8 years	99.4	100.4	98.9	103.2	81.2	97.3	94.0	95.1
9 years	98.7	100.6	102.1	103.2	85.4	100.4	92.8	96.9
10 years	98.5	100.9	100.7	104.1	100.9	94.2	96.1	95.0
11 years	97.2	102.1	100.7	104.9	85.4	101.8	97.6	105.1
Girls								
6-11 years	97.2	98.8	99.8	103.3	91.7	95.5	94.1	94.9
6 years	98.1	97.3	100.3	102.8	89.6	96.2	96.4	85.5
7 years	95.6	99.8	99.4	101.8	94.9	93.0	96.9	93.4
8 years	97.2	98.0	100.6	102.9	95.4	95.8	94.6	98.4
9 years	98.2	99.4	99.4	102.5	91.5	100.7	93.6	93.9
10 years	97.9	100.2	99.9	103.7	89.7	87.7	90.9	99.8
11 years	96.2	98.0	99.5	106.2	91.3	98.1	91.6	95.1
	Standard error							
Both sexes 6-11 years	1.00	1.25	0.83	0.44	28.35	1.91	1.72	1.73
Boys 6-11 years	1.22	1.33	1.01	0.44	27.80	2.28	2.48	1.70
Girls 6-11 years	0.93	1.40	0.87	1.00	45.87	2.39	1.65	1.73

Table 20. Average standard scores for children on the Goodenough-Harris Drawing Test, by region, population change from 1950 to 1960 in size of place of residence, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Northeast				Midwest			
	Rate of population change				Rate of population change			
	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain
	Standard score							
Both sexes 6-11 years	101.6	101.4	99.0	102.5	98.1	98.9	99.7	103.6
Boys								
6-11 years	102.8	102.1	99.6	103.3	99.1	98.4	99.9	103.3
6 years	104.1	101.7	100.9	104.6	99.6	100.0	98.3	102.2
7 years	102.7	98.9	100.6	100.2	101.0	99.2	99.1	106.3
8 years	103.7	105.6	100.0	103.4	100.2	97.7	98.5	104.3
9 years	103.7	102.4	98.5	103.8	99.0	97.4	102.0	101.5
10 years	103.2	100.1	98.5	102.5	99.3	99.8	101.4	101.0
11 years	99.3	103.4	98.2	105.2	95.1	96.7	100.1	104.8
Girls								
6-11 years	100.3	100.7	98.4	101.6	97.2	99.4	99.5	104.0
6 years	100.2	100.1	96.4	99.6	102.8	99.3	100.7	106.3
7 years	99.6	102.2	100.3	99.6	98.8	100.2	98.9	102.7
8 years	100.1	101.9	95.8	104.1	97.0	97.1	100.4	103.7
9 years	102.1	102.3	100.9	100.4	96.1	100.6	100.0	101.7
10 years	98.9	102.2	97.7	99.5	93.9	102.0	99.4	104.4
11 years	101.8	94.9	99.9	106.3	94.0	95.9	97.7	105.6
	Standard error							
Both sexes 6-11 years	39.36	0.62	0.84	1.02	49.06	49.46	1.30	0.65
Boys 6-11 years	39.83	1.42	1.45	0.30	49.58	49.19	1.87	1.37
Girls 6-11 years	38.88	1.13	2.96	2.52	48.59	49.71	0.72	1.94

Age and sex	South				West			
	Rate of population change				Rate of population change			
	Loss	Below-average gain	Average gain	Above-average gain	Loss	Below-average gain	Average gain	Above-average gain
	Standard score							
Both sexes 6-11 years	93.4	98.7	95.2	101.8	99.5	97.8	100.7	103.3
Boys								
6-11 years	93.8	100.3	95.4	103.0	99.3	99.4	101.6	103.7
6 years	96.9	100.1	94.8	102.4	97.0	97.3	101.3	103.2
7 years	94.3	95.4	95.8	106.3	102.1	97.3	100.7	102.2
8 years	92.3	92.1	93.2	97.7	100.6	99.8	100.7	102.1
9 years	91.2	104.0	95.2	99.3	99.0	99.3	104.7	106.4
10 years	92.8	111.0	94.8	106.0	100.9	98.5	100.0	103.4
11 years	95.2	105.0	98.9	104.3	96.5	103.7	102.6	105.4
Girls								
6-11 years	93.0	97.2	94.9	100.7	99.8	96.0	99.7	102.8
6 years	93.2	98.4	97.9	95.9	96.7	93.0	101.4	102.3
7 years	90.3	95.5	96.5	100.7	94.5	96.6	99.4	101.5
8 years	92.4	98.6	98.2	104.6	99.5	94.2	100.7	95.8
9 years	94.3	96.1	93.1	100.4	103.5	96.8	96.1	104.1
10 years	94.4	92.0	90.8	101.0	103.8	98.7	100.3	105.6
11 years	92.7	102.9	92.1	101.0	99.7	98.4	100.4	107.4
	Standard error							
Both sexes 6-11 years	1.68	49.38	2.18	0.42	2.36	48.96	50.37	1.54
Boys 6-11 years	2.57	50.18	3.04	0.77	2.36	49.75	50.81	0.82
Girls 6-11 years	1.19	48.66	1.23	0.41	2.38	48.03	49.87	2.88

Table 21. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65

Scale, age, and sex	Grade in school									
	All grades[1]	Kinder-garten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
MAN SCALE	Raw score									
Both sexes 6-11 years	25.1	15.2	17.2	21.5	24.3	28.1	30.9	33.6	35.8	20.2
Boys										
6-11 years	25.1	15.3	17.1	21.5	24.2	28.1	30.6	33.4	36.2	20.6
6 years	16.7	15.2	16.5	19.8	-	-	-	-	-	16.9
7 years	21.0	*	19.3	21.4	23.3	-	-	-	-	13.2
8 years	24.0	-	15.9	23.0	24.2	28.3	-	-	-	14.4
9 years	26.7	-	*	19.5	24.1	27.8	29.2	-	-	19.1
10 years	30.0	-	-	*	26.6	28.8	30.9	32.2	-	18.9
11 years	32.7	-	-	*	*	27.7	30.8	33.6	36.2	29.8
Girls										
6-11 years	25.0	14.8	17.5	21.5	25.0	28.2	32.3	34.5	34.3	18.5
6 years	17.7	14.8	17.1	24.4	-	-	-	-	-	-
7 years	20.8	-	19.7	20.9	23.8	-	-	-	-	23.0
8 years	24.0	-	11.6	21.4	25.2	28.4	-	-	-	11.6
9 years	27.5	-	-	23.1	25.0	28.4	36.6	-	-	22.6
10 years	30.6	-	-	-	26.8	27.3	32.4	32.0	36.0	18.8
11 years	33.2	-	-	-	18.0	28.1	30.2	35.0	34.2	15.3
	Standard error									
Boys 6-11 years	0.31	0.64	0.45	0.34	0.41	0.43	0.47	0.62	1.08	2.00
Girls 6-11 years	0.46	1.64	0.51	0.54	0.98	0.72	1.00	1.28	1.83	2.24
WOMAN SCALE	Raw score									
Both sexes 6-11 years	29.2	19.5	20.7	24.8	29.1	31.3	34.9	36.6	40.6	19.4
Boys										
6-11 years	25.4	20.9	17.8	22.5	26.1	28.7	30.0	30.5	35.6	17.6
6 years	17.9	20.9	17.2	20.1	-	-	-	-	-	*
7 years	21.4	-	18.6	21.7	28.8	-	-	-	-	*
8 years	25.7	-	*	25.1	25.9	27.8	-	-	-	*
9 years	26.7	-	-	*	26.0	27.8	28.6	-	-	19.6
10 years	29.6	-	*	*	24.2	30.7	30.5	34.5	-	*
11 years	30.1	-	-	*	*	28.4	29.9	29.9	35.6	*
Girls										
6-11 years	30.0	19.4	21.3	25.3	29.9	31.8	35.7	37.5	41.1	20.4
6 years	21.1	19.4	21.0	23.4	-	-	-	-	-	*
7 years	25.5	-	22.6	25.6	28.8	-	-	-	-	*
8 years	28.9	-	*	26.3	29.8	29.7	-	-	-	*
9 years	31.7	-	*	*	30.4	32.2	34.2	-	-	*
10 years	34.9	-	-	*	33.4	32.6	35.8	35.8	-	24.4
11 years	37.7	-	-	*	*	30.0	36.2	37.9	41.1	*
	Standard error									
Boys 6-11 years	0.31	0.64	0.46	0.85	0.60	0.73	0.88	1.12	3.53	1.87
Girls 6-11 years	0.46	1.64	0.25	0.31	0.33	0.40	0.46	0.57	0.82	2.23

[1]Grade at time of examination. Children not known to be in school have been excluded from this table.

Table 22. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by grade in school, age, and sex: United States, 1963-65

Age and sex	Grade in school									
	All grades[1]	Kinder-garten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
Boys	Man Scale standard score									
6 years	101.1	96.6	100.5	109.4	-	-	-	-	-	101.7
7 years	101.0	*	96.9	101.8	105.9	-	-	-	-	*
8 years	100.0	-	82.8	98.0	100.6	109.6	-	-	-	*
9 years	100.4	-	*	85.0	95.2	102.6	105.4	-	-	84.2
10 years	101.0	-	-	*	94.2	98.6	101.9	104.4	-	80.8
11 years	100.4	-	-	*	*	92.4	97.6	102.2	106.4	95.6
Girls										
6 years	101.4	95.4	100.2	115.8	-	-	-	-	-	-
7 years	100.6	-	98.4	100.8	106.6	-	-	-	-	*
8 years	101.0	-	*	96.4	102.6	107.8	-	-	-	*
9 years	101.0	-	-	*	96.0	102.4	118.2	-	-	*
10 years	100.2	-	-	-	93.8	94.6	103.4	103.0	*	*
11 years	100.2	-	-	-	*	*	96.2	103.0	101.4	*
Boys	Woman Scale standard score									
6 years	100.7	110.7	98.6	108.3	-	-	-	-	-	*
7 years	100.8	-	94.2	101.4	117.6	-	-	-	-	*
8 years	100.4	-	*	99.2	100.8	105.4	-	-	-	*
9 years	100.4	-	-	*	99.0	102.6	104.2	-	-	86.2
10 years	100.6	-	*	*	91.2	102.4	102.0	109.0	-	*
11 years	100.2	-	-	*	*	96.8	99.8	99.8	111.2	*
Girls										
6 years	101.2	96.8	101.0	106.2	-	-	-	-	-	*
7 years	101.0	-	94.2	101.2	107.6	-	-	-	-	*
8 years	100.8	-	*	95.6	102.6	102.4	-	-	-	*
9 years	100.4	-	*	*	97.8	101.4	105.4	-	-	*
10 years	100.8	-	-	*	97.8	96.2	101.8	101.8	-	81.8
11 years	100.4	-	-	*	*	88.0	98.2	100.8	106.2	*

[1]Grade at time of examination. Children not known to be in school have been excluded from this table.

Table 23. Average standard scores for children on the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Grade in school								
	Kindergarten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
	Standard score								
Both sexes 6-11 years----	96.5	97.5	99.5	100.0	100.2	101.2	101.3	105.8	84.4
Boys									
6-11 years---------	97.8	98.1	100.6	99.4	101.7	101.4	102.6	107.5	87.1
6 years----------	97.8	99.6	108.7	-	-	-	-	-	*
7 years----------	*	95.9	101.2	107.0	-	-	-	-	*
8 years----------	-	82.8	97.4	100.1	108.3	-	-	-	*
9 years----------	-	*	88.9	95.6	102.5	105.3	-	-	84.8
10 years---------	-	*	*	93.2	99.0	102.0	104.7	-	*
11 years---------	-	-	*	*	93.3	98.1	102.2	107.5	94.5
Girls									
6-11 years---------	95.2	96.9	98.5	100.5	98.8	101.0	100.0	104.6	79.0
6 years----------	95.2	98.6	106.8	-	-	-	-	-	*
7 years----------	-	92.8	98.9	106.7	-	-	-	-	*
8 years----------	-	80.2	93.7	101.0	101.6	-	-	-	*
9 years----------	-	*	*	96.1	100.3	105.7	-	-	80.2
10 years---------	-	-	*	94.4	94.5	101.2	100.9	*	*
11 years---------	-	-	*	*	87.3	96.7	99.9	104.6	*
	Standard error								
Both sexes 6-11 years----	1.19	0.72	0.59	0.58	0.53	0.54	0.79	1.23	2.62
Boys 6-11 years----------	1.57	1.03	0.75	0.90	0.77	0.73	1.01	1.65	2.86
Girls 6-11 years---------	2.37	0.71	0.63	0.57	0.78	0.72	0.95	1.48	2.90

Table 24. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by grade in school, age, and sex, with standard errors for total averages: United States, 1963-65

Age, race, and sex	Grade in school								
	Kindergarten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
WHITE	Standard score								
Both sexes 6-11 years	98.8	98.5	100.4	100.5	100.9	102.0	101.7	106.5	83.0
Boys									
6-11 years	99.4	99.2	101.8	100.0	102.2	101.9	102.6	108.4	86.3
6 years	99.5	100.6	108.0	-	-	-	-	-	96.7
7 years	94.0	96.8	102.1	106.8	-	-	-	-	84.5
8 years	-	83.8	98.8	100.6	109.5	-	-	-	72.1
9 years	-	-	94.0	96.3	102.9	105.0	-	-	84.6
10 years	-	83.0	90.8	92.4	99.3	102.8	104.2	-	71.5
11 years	-	-	82.0	100.8	93.4	98.1	102.3	108.4	93.5
Girls									
6-11 years	98.2	97.8	98.9	101.0	99.6	102.1	100.8	105.2	78.0
6 years	98.2	99.5	105.6	-	-	-	-	-	91.0
7 years	-	93.8	99.2	107.2	-	-	-	-	90.1
8 years	-	80.4	94.7	101.4	101.9	-	-	-	73.0
9 years	-	70.3	87.5	96.6	100.9	106.7	-	-	80.2
10 years	-	-	69.5	94.2	96.6	102.2	101.4	103.0	73.7
11 years	-	-	73.0	83.0	84.6	98.2	100.7	105.3	69.7
	Standard error								
Both sexes 6-11 years	1.44	0.78	0.64	0.64	0.65	0.55	0.87	1.16	2.64
Boys 6-11 years	2.09	1.01	0.74	0.90	0.94	0.80	1.01	1.66	2.88
Girls 6-11 years	2.32	0.82	0.74	0.60	0.85	0.67	1.14	1.40	3.16
NEGRO	Standard score								
Both sexes 6-11 years	84.8	92.3	94.6	96.5	95.5	96.0	98.4	96.0	88.2
Boys									
6-11 years	87.6	92.8	93.0	95.6	98.4	98.1	102.6	93.9	88.7
6 years	87.6	94.0	112.0	-	-	-	-	-	-
7 years	-	92.0	95.6	108.7	-	-	-	-	81.0
8 years	-	78.8	90.8	95.5	101.3	-	-	-	95.5
9 years	-	89.0	78.8	93.0	98.9	106.9	-	-	85.8
10 years	-	-	84.0	96.4	98.1	96.5	108.5	-	84.4
11 years	-	-	80.0	95.3	91.2	98.7	101.2	93.9	96.2
Girls									
6-11 years	82.9	91.6	96.1	97.5	93.5	93.9	95.2	97.0	86.0
6 years	82.9	93.0	118.3	-	-	-	-	-	-
7 years	-	88.5	97.2	102.5	-	-	-	-	-
8 years	-	78.8	90.1	98.3	98.4	-	-	-	-
9 years	-	-	74.8	92.6	96.2	99.1	-	-	-
10 years	-	-	-	95.2	85.5	94.4	96.7	-	88.3
11 years	-	-	-	-	95.4	90.2	95.0	97.0	81.4
	Standard error								
Both sexes 6-11 years	5.32	1.26	1.02	1.87	1.17	2.14	1.52	6.87	5.10
Boys 6-11 years	21.68	2.50	2.00	3.47	1.66	1.97	2.30	12.41	5.50
Girls 6-11 years	6.47	1.12	1.66	1.36	1.59	3.02	2.32	22.02	28.03

Table 25. Average standard scores for children on the Goodenough-Harris Drawing Test, by grade in school, region, age, and sex, with standard errors for total averages: United States, 1963-65

Region, age, and sex	Grade in school								
	Kinder-garten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
NORTHEAST	Standard score								
Both sexes 6-11 years	98.0	99.4	100.7	101.9	101.8	102.8	101.0	108.3	86.8
Boys									
6-11 years	103.9	101.2	101.1	101.8	102.9	104.0	101.3	109.7	89.0
6 years	103.9	101.5	108.0	-	-	-	-	-	99.8
7 years	-	100.6	100.6	103.0	-	-	-	-	73.6
8 years	-	92.5	96.4	103.6	109.2	-	-	-	-
9 years	-	-	95.0	95.5	102.9	108.6	-	-	89.6
10 years	-	-	-	92.9	98.6	103.3	101.4	-	91.1
11 years	-	-	-	-	92.9	100.0	101.3	109.7	88.5
Girls									
6-11 years	89.0	97.4	100.3	101.9	100.7	101.3	100.7	107.2	81.4
6 years	89.0	98.0	106.2	-	-	-	-	-	94.0
7 years	-	94.4	99.7	106.7	-	-	-	-	-
8 years	-	-	92.7	101.9	100.6	-	-	-	-
9 years	-	-	-	90.5	102.4	108.2	-	-	71.6
10 years	-	-	76.0	84.0	92.1	100.8	106.0	-	83.4
11 years	-	-	-	-	79.7	94.6	99.3	107.2	-
	Standard error								
Both sexes 6-11 years	24.2	0.80	1.11	1.16	0.65	0.97	0.91	2.96	3.93
Boys 6-11 years	7.22	0.99	1.79	1.78	0.87	0.71	2.05	3.47	2.73
Girls 6-11 years	13.49	0.89	1.13	1.39	1.32	2.35	1.20	3.42	6.37
MIDWEST	Standard score								
Both sexes 6-11 years	100.8	98.9	101.3	100.2	101.0	101.3	100.9	104.7	83.3
Boys									
6-11 years	103.1	98.4	102.4	98.9	102.6	100.4	102.0	106.1	84.4
6 years	104.1	99.3	104.8	-	-	-	-	-	97.5
7 years	94.0	96.3	102.7	105.6	-	-	-	-	93.4
8 years	-	86.9	100.9	99.6	108.8	-	-	-	65.5
9 years	-	-	94.1	92.5	102.8	106.0	-	-	76.4
10 years	-	-	-	97.2	100.6	100.2	107.1	-	74.9
11 years	-	-	-	-	90.5	98.2	100.5	106.1	90.3
Girls									
6-11 years	99.1	99.4	100.2	101.6	99.3	102.2	99.8	103.9	81.6
6 years	99.1	100.6	109.2	-	-	-	-	-	89.7
7 years	-	96.6	99.4	107.6	-	-	-	-	-
8 years	-	59.0	93.0	101.6	103.9	-	-	-	90.0
9 years	-	-	107.0	98.1	99.5	105.3	-	-	83.3
10 years	-	-	-	86.2	94.6	102.3	102.8	103.0	63.1
11 years	-	-	-	70.0	92.6	92.0	99.4	103.9	78.6
	Standard error								
Both sexes 6-11 years	5.88	1.39	0.53	1.35	1.23	0.65	1.87	1.43	5.32
Boys 6-11 years	7.27	2.52	1.25	1.73	1.98	1.12	1.77	1.76	5.85
Girls 6-11 years	23.45	1.61	0.83	1.36	1.74	1.15	2.64	1.93	8.59

Table 25. Average standard scores for children on the Goodenough-Harris Drawing Test, by grade in school, region, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Region, age, and sex	Grade in school								
	Kindergarten	First grade	Second grade	Third grade	Fourth grade	Fifth grade	Sixth grade	Seventh grade	Special class, ungraded
SOUTH	Standard score								
Both sexes 6-11 years	89.8	94.2	96.1	97.3	96.8	97.9	99.7	102.2	82.7
Boys									
6-11 years	86.5	94.8	96.7	96.1	98.8	99.0	103.0	103.7	87.4
6 years	86.5	96.8	111.0	-	-	-	-	-	109.0
7 years	-	92.5	98.6	115.8	-	-	-	-	-
8 years	-	75.6	91.8	94.5	105.9	-	-	-	85.0
9 years	-	89.0	80.6	94.9	99.5	97.5	-	-	62.0
10 years	-	83.0	82.9	93.3	96.8	101.3	108.4	-	-
11 years	-	-	81.0	94.7	94.2	94.5	102.6	103.7	104.0
Girls									
6-11 years	93.6	93.6	95.5	98.7	94.9	96.9	97.4	100.8	78.4
6 years	93.6	96.3	100.0	-	-	-	-	-	-
7 years	-	87.7	97.8	103.4	-	-	-	-	97.0
8 years	-	87.1	92.8	99.9	100.3	-	-	-	-
9 years	-	73.9	76.5	94.9	97.0	101.1	-	-	84.0
10 years	-	-	66.0	99.0	90.0	97.0	93.8	-	87.0
11 years	-	-	73.0	79.0	86.5	95.4	98.1	100.8	65.8
	Standard error								
Both sexes 6-11 years	3.90	1.28	1.41	1.34	0.95	1.51	1.42	2.66	7.98
Boys 6-11 years	27.40	1.67	1.88	1.81	1.51	1.44	2.10	4.77	9.45
Girls 6-11 years	6.56	1.40	1.24	1.56	1.15	1.69	1.20	1.56	26.42
WEST	Standard score								
Both sexes 6-11 years	95.1	98.4	100.0	100.4	101.1	102.9	104.0	108.7	84.3
Boys									
6-11 years	94.8	99.2	101.9	101.1	102.2	102.3	104.7	118.9	87.7
6 years	94.8	101.3	116.0	-	-	-	-	-	84.0
7 years	-	96.9	102.4	114.1	-	-	-	-	83.1
8 years	-	86.1	98.9	102.3	107.4	-	-	-	90.0
9 years	-	-	98.5	99.0	104.3	106.1	-	-	90.1
10 years	-	-	96.0	91.9	99.9	104.2	98.0	-	74.9
11 years	-	-	-	103.5	94.0	99.2	104.8	118.9	100.9
Girls									
6-11 years	95.4	97.6	97.5	99.5	100.0	103.6	103.2	105.6	73.2
6 years	95.4	99.5	120.1	-	-	-	-	-	-
7 years	-	94.9	98.7	108.3	-	-	-	-	84.0
8 years	-	80.2	95.1	100.4	100.6	-	-	-	64.4
9 years	-	64.0	84.5	97.9	102.3	106.2	-	-	78.0
10 years	-	-	-	94.0	98.6	104.4	100.3	-	89.0
11 years	-	-	-	89.9	86.2	100.7	103.8	105.6	75.3
	Standard error								
Both sexes 6-11 years	1.43	1.41	1.82	0.80	1.26	1.16	2.02	8.27	5.26
Boys 6-11 years	21.95	1.91	1.66	1.10	1.07	2.11	2.08	46.14	7.41
Girls 6-11 years	1.34	1.39	2.33	0.98	2.39	1.18	2.70	25.67	8.87

Table 26. Average raw scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65

Scale, age, and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
MAN SCALE	Raw score							
Both sexes 6-11 years	20.2	23.3	24.8	24.4	25.2	27.0	28.0	27.6
Boys								
6-11 years	20.5	23.6	24.8	24.6	25.0	26.8	27.3	27.5
6 years	13.5	14.1	16.5	15.9	17.4	18.3	17.5	17.0
7 years	16.4	20.4	20.4	20.7	20.9	23.6	23.2	21.6
8 years	17.8	21.1	24.0	24.8	24.3	25.7	24.8	26.5
9 years	21.0	25.3	25.9	26.7	27.4	27.8	30.2	27.0
10 years	25.0	28.1	29.0	29.0	30.5	32.6	31.9	33.3
11 years	28.7	31.4	30.0	33.5	32.5	33.3	38.0	34.4
Girls								
6-11 years	19.2	22.0	24.9	23.7	25.7	28.4	31.8	28.1
6 years	12.2	12.6	18.1	17.0	19.4	17.6	22.5	21.8
7 years	15.4	22.6	20.1	20.8	21.1	24.5	20.9	21.6
8 years	18.9	21.1	22.4	26.2	23.4	34.8	26.4	23.4
9 years	23.6	22.0	27.5	27.0	28.2	34.3	35.4	29.6
10 years	26.4	31.0	30.8	27.6	34.2	32.5	31.7	30.2
11 years	22.9	28.3	31.4	32.1	33.2	35.6	38.8	50.0
	Standard error							
Both sexes 6-11 years	0.81	0.83	0.62	0.41	0.22	0.54	0.50	0.88
Boys 6-11 years	0.85	0.89	0.58	0.44	0.21	0.62	0.53	0.83
Girls 6-11 years	1.11	1.48	1.35	0.84	0.74	1.12	1.72	2.24
WOMAN SCALE	Raw score							
Both sexes 6-11 years	25.9	28.1	28.3	28.6	29.7	31.2	31.0	31.4
Boys								
6-11 years	23.3	23.5	26.1	25.3	25.7	28.0	27.4	24.2
6 years	17.0	19.4	18.0	16.0	18.2	19.0	19.8	17.0
7 years	18.8	20.6	23.0	20.0	20.9	24.9	22.3	28.7
8 years	29.2	23.7	25.4	27.1	24.4	27.8	28.4	26.3
9 years	22.1	22.6	27.0	28.6	27.1	25.9	32.1	24.0
10 years	22.7	28.4	28.7	30.3	31.2	33.3	29.9	30.2
11 years	26.7	25.9	31.0	29.9	32.3	33.4	29.1	27.6
Girls								
6-11 years	26.4	29.3	28.8	29.4	30.4	31.6	31.7	32.8
6 years	17.8	19.5	20.5	20.6	20.9	22.6	23.6	22.3
7 years	20.1	23.9	22.9	25.4	26.2	26.8	27.3	29.8
8 years	25.2	28.1	27.4	28.3	29.5	32.6	29.3	29.8
9 years	27.0	30.7	32.1	31.7	31.6	34.3	35.2	34.0
10 years	32.7	31.4	31.4	33.0	36.7	38.7	37.4	39.7
11 years	31.6	36.7	35.6	37.1	38.4	44.3	40.6	41.5
	Standard error							
Both sexes 6-11 years	0.86	0.72	0.48	0.36	0.28	0.56	0.51	0.89
Boys 6-11 years	1.20	1.03	0.90	0.89	0.63	1.12	1.13	2.39
Girls 6-11 years	0.93	0.95	0.49	0.41	0.28	0.62	0.60	0.88

[1] The father or if he is not in the home, the mother or guardian.

Table 27. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by education of parent, age, and sex: United States, 1963-65

Age and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
Boys	Man Scale standard score							
6 years	92.5	94.2	100.5	98.7	103.2	105.6	103.5	102.0
7 years	90.2	99.8	99.8	100.4	100.8	106.8	105.6	102.2
8 years	86.6	94.2	100.0	102.4	100.9	104.4	102.4	106.0
9 years	88.0	97.6	98.8	100.4	101.8	102.6	107.4	101.0
10 years	92.0	97.2	99.0	99.0	101.5	105.2	103.8	106.6
11 years	93.7	98.4	96.0	102.0	100.0	101.6	109.0	103.4
Girls								
6 years	89.4	90.2	102.2	100.0	105.2	101.2	112.0	110.6
7 years	89.8	104.2	99.2	100.6	101.2	108.0	100.8	102.2
8 years	91.8	96.1	97.8	105.2	99.8	118.8	105.4	99.8
9 years	93.2	90.0	101.0	100.0	102.2	113.6	115.8	104.2
10 years	93.4	101.0	100.6	95.2	106.2	103.5	102.4	99.4
11 years	84.9	93.3	97.8	99.1	100.2	103.6	108.6	125.0
Boys	Woman Scale standard score							
6 years	98.0	105.6	101.0	95.0	101.6	104.0	107.2	98.0
7 years	94.6	98.8	104.0	97.0	99.7	108.8	102.6	117.4
8 years	108.4	96.1	99.8	103.3	97.8	105.4	106.8	101.6
9 years	91.2	92.2	101.0	104.2	101.2	98.8	111.2	95.0
10 years	88.4	98.8	99.4	101.6	103.4	107.3	100.9	101.4
11 years	93.7	92.8	102.0	99.8	104.6	106.8	98.2	95.2
Girls								
6 years	93.4	97.0	99.5	99.8	100.7	104.2	106.8	103.6
7 years	89.2	96.8	94.8	100.8	102.4	103.6	104.6	109.6
8 years	93.4	99.2	97.8	99.6	102.0	108.2	101.6	102.6
9 years	91.0	98.4	101.2	100.4	100.2	105.6	107.4	105.0
10 years	96.4	93.8	93.8	97.0	103.4	107.4	104.8	109.4
11 years	90.2	98.7	97.2	99.2	101.8	111.6	105.2	107.0

[1]The father or if he is not in the home, the mother or guardian.

Table 28. Average standard scores for children on the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
	Standard score							
Both sexes 6-11 years	90.4	96.1	97.5	99.0	100.7	104.9	104.6	103.8
Boys								
6-11 years	90.9	96.6	98.9	100.1	101.0	104.4	105.1	103.1
6 years	91.8	95.3	99.9	97.7	102.2	104.8	102.9	100.1
7 years	90.4	98.8	99.8	99.1	99.9	106.5	104.7	105.2
8 years	88.8	94.2	99.5	101.6	99.7	103.4	102.4	104.4
9 years	88.9	96.5	98.9	100.9	101.4	102.3	108.1	100.6
10 years	90.7	97.3	98.5	99.1	101.5	105.1	103.3	106.1
11 years	94.2	97.5	97.2	102.1	101.3	102.6	109.0	102.5
Girls								
6-11 years	89.9	95.6	96.2	97.9	100.4	105.4	104.0	104.7
6 years	88.8	91.3	98.5	97.7	99.9	103.0	106.3	103.9
7 years	86.5	96.7	93.8	98.4	100.3	102.7	103.1	106.7
8 years	90.8	97.3	95.1	98.7	100.0	108.4	100.6	101.1
9 years	89.8	96.3	100.0	99.0	99.4	105.6	107.6	103.6
10 years	94.1	94.1	94.1	95.3	103.1	105.4	102.7	105.8
11 years	88.8	96.2	95.5	98.3	100.1	109.2	104.8	108.6
	Standard error							
Both sexes 6-11 years	0.85	1.05	0.88	0.55	0.41	0.72	0.91	0.83
Boys 6-11 years	1.38	1.31	0.87	0.82	0.53	1.17	1.22	1.00
Girls 6-11 years	1.20	1.25	1.01	0.67	0.49	0.74	1.00	1.17

[1]The father or if he is not in the home, the mother or guardian.

Table 29. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by education of parent, age, and sex, with standard errors for total averages: United States, 1963-65

Age, race, and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
WHITE	Standard score							
Both sexes 6-11 years	91.6	97.2	98.0	99.9	100.8	105.2	104.8	103.7
Boys								
6-11 years	92.7	97.6	99.3	101.1	101.1	104.8	105.6	102.8
6 years	92.8	97.1	98.7	99.1	102.7	105.4	103.0	100.1
7 years	93.8	98.2	101.5	101.2	99.9	106.4	104.6	105.2
8 years	91.4	95.0	101.1	102.4	99.5	104.0	103.0	104.3
9 years	91.0	97.5	99.6	101.6	101.5	103.2	107.9	100.6
10 years	90.4	99.2	98.5	100.4	101.6	105.4	104.9	106.1
11 years	95.9	97.7	97.1	101.9	101.5	102.9	109.8	101.6
Girls								
6-11 years	90.5	96.8	96.7	98.7	100.6	105.6	104.0	104.6
6 years	89.2	94.9	98.7	98.9	99.5	103.2	106.3	103.9
7 years	84.6	97.2	94.6	98.6	100.4	102.8	103.4	107.4
8 years	91.2	98.9	94.8	99.4	100.3	108.4	99.9	101.2
9 years	90.8	96.5	100.5	99.0	99.8	105.9	107.6	102.9
10 years	96.3	96.2	95.4	96.5	103.0	106.0	102.7	105.8
11 years	89.0	95.6	96.7	99.5	100.5	109.2	104.8	108.8
	Standard error							
Both sexes 6-11 years	1.00	1.24	0.98	0.64	0.41	0.70	0.96	0.82
Boys 6-11 years	1.50	1.19	0.84	0.96	0.54	1.17	1.23	1.02
Girls 6-11 years	1.73	1.54	1.29	0.70	0.54	0.75	1.03	1.11
NEGRO	Standard score							
Both sexes 6-11 years	87.5	93.9	94.0	94.8	99.4	98.7	100.2	109.0
Boys								
6-11 years	86.6	94.8	95.4	94.9	99.9	98.3	96.3	119.4
6 years	90.3	91.3	110.1	90.2	97.3	92.3	97.5	-
7 years	83.9	100.6	85.0	93.3	100.8	110.9	111.0	-
8 years	79.0	93.4	84.8	95.3	101.5	98.6	78.0	103.0
9 years	85.8	94.4	91.1	98.3	101.0	86.2	114.0	-
10 years	92.6	93.6	98.9	93.0	100.8	102.1	89.1	-
11 years	89.0	97.4	98.8	103.1	97.6	85.0	88.0	140.0
Girls								
6-11 years	88.3	92.8	93.0	94.7	98.9	99.3	107.0	105.2
6 years	87.6	86.7	97.8	92.2	104.6	94.0	-	-
7 years	90.7	95.8	88.4	96.6	98.9	100.6	98.8	96.9
8 years	89.4	92.9	97.8	95.7	96.4	107.2	112.3	96.0
9 years	87.3	93.1	97.9	99.3	95.2	95.0	-	131.0
10 years	87.5	90.7	76.7	91.3	104.2	93.0	-	106.0
11 years	88.0	97.6	86.5	95.0	96.2	-	-	-
	Standard error							
Both sexes 6-11 years	1.15	1.79	2.22	0.90	1.17	2.74	23.46	25.43
Boys 6-11 years	1.89	2.60	3.79	1.50	1.74	3.96	22.87	46.10
Girls 6-11 years	0.86	1.87	2.30	1.79	1.20	1.23	25.66	34.18

[1]The father or if he is not in the home, the mother or guardian.

Table 30. Average standard scores for children on the Goodenough-Harris Drawing Test, by education of parent, region, age, and sex, with standard errors for total averages: United States, 1963-65

Region, age, and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
NORTHEAST	Standard score							
Both sexes 6-11 years----	91.4	96.0	100.0	100.6	101.6	105.4	104.0	104.3
Boys								
6-11 years---------	90.4	99.2	100.8	102.6	102.5	105.1	103.7	102.7
6 years----------	100.4	96.9	112.6	101.6	103.5	97.8	108.5	99.4
7 years----------	86.9	102.0	100.9	98.8	100.8	108.0	101.7	107.0
8 years----------	108.0	95.5	95.8	106.7	104.1	108.4	97.3	107.3
9 years----------	87.2	99.1	100.4	104.5	102.8	106.4	105.6	100.9
10 years----------	86.1	102.2	102.5	97.2	101.2	104.8	102.6	105.1
11 years----------	86.5	99.3	96.0	105.3	102.5	100.8	105.7	103.0
Girls								
6-11 years---------	93.5	93.2	99.1	98.6	100.6	105.6	104.4	105.8
6 years----------	94.0	82.4	92.1	97.2	101.6	100.3	106.5	106.9
7 years----------	81.4	89.9	98.1	100.2	101.1	106.0	102.6	108.5
8 years----------	88.6	92.7	99.8	101.0	100.6	109.0	101.6	100.3
9 years----------	102.1	92.3	106.7	99.0	101.0	105.1	106.0	105.1
10 years----------	79.1	96.6	101.4	95.5	98.9	113.8	102.0	108.1
11 years----------	101.5	97.0	94.0	97.8	99.6	106.9	106.8	110.1
	Standard error							
Both sexes 6-11 years----------	2.29	1.87	1.01	1.05	0.70	1.43	1.90	0.97
Boys 6-11 years----------	1.99	1.56	1.26	1.35	1.24	1.72	2.81	1.15
Girls 6-11 years---------	4.33	3.27	1.55	1.49	0.64	2.29	1.80	1.89
MIDWEST	Standard score							
Both sexes 6-11 years----	94.3	101.7	97.7	99.4	100.0	10 0	104.0	103.5
Boys								
6-11 years---------	97.4	101.9	98.0	100.2	99.6	104.0	105.4	103.6
6 years----------	99.0	105.0	99.9	99.5	101.7	98.2	92.4	95.0
7 years----------	88.3	101.0	102.1	101.4	99.2	104.0	111.9	89.0
8 years----------	106.0	93.7	97.8	101.5	99.6	106.0	102.5	104.1
9 years----------	91.5	107.1	98.1	99.3	98.5	106.2	111.6	96.5
10 years----------	-	100.0	95.8	100.3	99.7	103.9	101.2	107.2
11 years----------	117.0	103.2	96.4	98.6	98.3	103.4	110.7	105.5
Girls								
6-11 years---------	93.1	101.5	97.4	98.4	100.5	106.2	102.3	103.5
6 years----------	106.5	102.0	104.8	98.3	101.5	104.3	102.0	93.3
7 years----------	92.6	100.3	96.7	98.3	101.4	102.4	107.2	101.9
8 years----------	101.0	100.0	96.4	98.2	100.2	109.6	96.6	110.6
9 years----------	86.0	108.7	97.1	100.6	96.6	105.8	107.4	108.9
10 years----------	95.6	100.8	96.4	96.6	103.8	102.5	102.4	98.9
11 years----------	83.7	102.4	94.6	98.6	99.7	113.0	98.4	102.6
	Standard error							
Both sexes 6-11 years----------	7.11	2.04	1.52	1.09	0.72	1.26	2.86	2.83
Boys 6-11 years----------	23.74	1.32	1.42	1.49	0.59	1.76	4.11	3.16
Girls 6-11 years---------	6.48	3.88	1.74	1.08	1.07	1.02	2.09	3.22

[1]The father or if he is not in the home, the mother or guardian.

Table 30. Average standard scores for children on the Goodenough-Harris Drawing Test, by education of parent, region, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Region, age, and sex	Years of schooling completed[1]							
	Less than 5 years	5-7 years	8 years	9-11 years	12 years	13-15 years	16 years	17 years or more
SOUTH	Standard score							
Both sexes 6-11 years----	89.3	94.1	96.1	95.8	100.0	106.1	106.0	103.0
Boys								
6-11 years---------	89.5	94.0	99.6	96.0	100.5	107.2	107.3	102.4
6 years----------	90.5	93.9	101.1	92.7	102.0	114.0	97.8	98.0
7 years----------	90.6	94.4	94.1	95.7	100.0	110.3	106.9	107.9
8 years----------	84.4	93.9	102.7	90.3	94.2	94.8	112.3	105.1
9 years----------	87.2	91.7	97.9	96.1	101.3	96.8	111.3	98.0
10 years----------	91.5	94.6	108.1	99.0	102.7	116.1	114.5	103.9
11 years----------	92.4	96.0	98.5	104.1	103.9	103.4	104.7	103.4
Girls								
6-11 years---------	89.1	94.2	93.5	95.6	99.5	105.0	104.8	103.8
6 years----------	87.8	90.2	97.5	96.5	98.8	102.8	107.5	102.1
7 years----------	86.2	96.5	86.3	97.9	96.9	102.4	97.1	113.6
8 years----------	91.6	95.0	93.5	98.5	101.8	117.5	106.8	95.4
9 years----------	88.4	95.0	95.4	94.1	101.4	103.8	108.7	96.0
10 years----------	93.6	93.1	87.5	90.6	100.7	106.0	99.7	110.0
11 years----------	87.6	94.5	96.7	96.0	98.3	101.2	107.5	103.1
	Standard error							
Both sexes 6-11 years----------	0.87	1.68	1.06	1.16	0.83	2.95	2.53	2.62
Boys 6-11 years----------	1.94	2.11	1.36	1.10	1.15	5.40	3.70	3.40
Girls 6-11 years---------	1.34	1.63	1.23	1.48	1.13	0.68	2.02	3.09
WEST	Standard score							
Both sexes 6-11 years----	91.7	97.6	96.4	99.6	101.2	103.7	104.8	104.2
Boys								
6-11 years---------	93.1	97.4	98.1	100.6	101.9	103.0	105.1	103.6
6 years----------	89.6	92.3	93.1	93.9	102.0	106.4	106.8	112.8
7 years----------	92.0	106.1	101.7	98.8	99.9	106.4	100.4	101.0
8 years----------	93.0	94.4	103.7	105.8	99.7	99.4	103.7	102.9
9 years----------	93.3	99.3	99.2	103.3	105.3	99.5	104.3	105.7
10 years----------	90.0	98.0	95.4	99.8	103.4	102.0	102.0	106.3
11 years----------	99.6	93.6	98.3	101.0	102.6	102.3	110.8	99.1
Girls								
6-11 years---------	90.2	97.9	94.6	98.4	100.6	104.6	104.5	104.8
6 years----------	87.2	93.0	94.0	98.5	96.9	106.2	107.9	106.5
7 years----------	85.6	100.1	90.8	96.5	99.6	99.9	103.3	105.6
8 years----------	88.9	102.9	91.1	95.7	97.9	104.0	100.3	101.9
9 years----------	89.2	103.0	103.2	99.9	101.1	106.9	109.7	100.9
10 years----------	97.2	86.5	93.0	99.2	105.5	103.7	104.2	103.3
11 years----------	90.9	95.8	96.7	101.4	102.7	108.3	104.6	112.4
	Standard error							
Both sexes 6-11 years----------	1.64	2.76	3.30	0.86	0.92	0.78	0.92	2.12
Boys 6-11 years----------	3.58	3.01	2.77	1.75	1.09	0.78	1.27	1.96
Girls 6-11 years---------	3.32	3.60	3.99	0.69	1.18	1.66	2.55	2.81

[1]The father or if he is not in the home, the mother or guardian.

Table 31. Average raw scores for children on the Man and Woman Scales of the Good-enough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	Man Scale raw score					
Both sexes 6-11 years---	21.1	24.1	25.3	26.7	26.8	26.8
Boys						
6-11 years--------	21.4	24.0	25.3	26.4	26.8	26.7
6 years-----------	14.1	15.8	17.6	16.8	17.4	17.8
7 years-----------	18.4	20.2	21.6	21.2	23.7	22.1
8 years-----------	21.7	23.5	23.6	25.8	25.2	25.3
9 years-----------	22.0	26.7	27.2	28.0	28.1	27.7
10 years----------	26.1	29.0	31.4	31.1	30.9	32.2
11 years----------	28.8	30.8	32.8	34.5	34.5	35.9
Girls						
6-11 years--------	20.2	24.2	25.5	28.6	27.0	27.0
6 years-----------	14.2	18.4	17.6	19.8	21.0	20.2
7 years-----------	18.4	20.2	20.9	24.2	20.9	22.0
8 years-----------	20.1	23.0	26.1	25.5	25.7	24.5
9 years-----------	23.0	27.0	29.3	29.4	31.9	28.3
10 years----------	28.1	29.8	30.7	35.1	31.2	28.5
11 years----------	29.5	30.2	31.2	37.4	33.5	39.6
	Standard error					
Both sexes 6-11 years----------	0.73	0.56	0.33	0.32	0.63	0.88
Boys 6-11 years---------	0.82	0.59	0.31	0.33	0.69	0.82
Girls 6-11 years--------	0.65	0.91	1.08	0.65	0.72	2.81

Table 31. Average raw scores for children on the Man and Woman Scales of the Good-enough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	Woman Scale raw score					
Both sexes 6-11 years---	26.6	28.3	29.5	30.0	31.8	30.6
Boys						
6-11 years--------	23.8	24.5	26.0	25.8	26.8	25.7
6 years-----------	14.8	17.3	19.7	18.0	19.5	16.8
7 years-----------	18.2	20.7	23.0	21.4	22.7	23.7
8 years-----------	26.5	25.3	23.8	25.2	29.5	24.2
9 years-----------	24.5	28.9	28.4	24.3	25.8	31.0
10 years----------	25.7	33.5	29.2	30.4	32.8	33.3
11 years----------	29.1	27.7	32.5	30.4	30.6	30.0
Girls						
6-11 years--------	27.2	29.2	30.2	30.7	32.6	31.8
6 years-----------	18.3	20.6	21.1	22.6	22.7	18.6
7 years-----------	22.4	24.4	25.9	26.4	29.1	28.5
8 years-----------	25.1	29.2	29.1	29.8	31.4	28.3
9 years-----------	29.5	31.5	31.4	32.6	34.2	33.7
10 years----------	31.2	34.3	35.6	35.6	36.8	39.0
11 years----------	34.1	35.6	38.1	40.2	41.1	39.4
	Standard error					
Both sexes 6-11 years----------	0.47	0.34	0.33	0.36	0.51	1.40
Boys 6-11 years---------	0.78	0.54	0.74	1.28	0.89	2.34
Girls 6-11 years--------	0.53	0.38	0.35	0.31	0.60	1.26

Table 32. Average standard scores for children on the Man and Woman Scales of the Goodenough-Harris Drawing Test, by annual family income, age, and sex: United States, 1963-65

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	Man Scale standard score					
Boys						
6 years	94.2	98.4	103.8	101.4	103.2	104.4
7 years	94.8	99.4	102.2	101.4	107.1	103.2
8 years	95.4	99.0	99.2	104.6	103.4	103.6
9 years	91.0	100.4	101.4	103.0	103.2	102.4
10 years	93.2	99.0	102.8	102.2	101.9	104.4
11 years	93.8	97.6	100.6	103.5	103.5	105.8
Girls						
6 years	93.6	102.8	101.2	106.4	109.0	107.4
7 years	95.8	99.4	100.8	107.4	100.8	103.0
8 years	94.2	99.0	105.1	103.5	104.1	101.5
9 years	92.0	100.0	103.6	103.8	108.8	102.3
10 years	96.2	98.8	100.4	107.2	101.4	97.0
11 years	95.0	96.2	97.4	106.4	100.5	109.6
	Woman Scale standard score					
Boys						
6 years	91.4	98.9	106.8	101.0	106.0	97.4
7 years	93.4	99.1	104.0	100.8	103.4	106.1
8 years	102.0	99.6	96.4	99.4	109.0	97.4
9 years	96.0	104.8	103.8	95.6	98.6	109.0
10 years	93.4	107.5	100.2	101.8	106.6	107.3
11 years	98.2	95.4	105.0	100.8	101.2	100.0
Girls						
6 years	94.6	99.8	101.2	104.2	104.4	95.2
7 years	93.8	98.2	101.8	102.8	108.2	107.0
8 years	93.2	101.4	101.2	102.6	105.8	99.6
9 years	96.0	100.0	99.8	102.2	105.4	104.4
10 years	93.4	99.6	101.6	101.6	103.6	108.0
11 years	94.2	97.2	101.2	104.4	106.2	103.4

Table 33. Average standard scores for children on the Goodenough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	Standard score					
Both sexes 6-11 years----	93.1	98.2	100.6	102.1	103.7	102.4
Boys						
6-11 years---------	93.8	98.8	101.6	102.0	103.4	103.3
6 years----------	92.7	98.0	103.4	100.9	102.6	101.8
7 years----------	94.1	98.5	102.0	100.5	106.1	103.1
8 years----------	95.6	98.6	98.0	102.8	103.2	101.8
9 years----------	91.6	100.8	101.8	102.1	102.4	103.7
10 years---------	93.4	99.5	102.4	102.2	102.4	104.6
11 years---------	95.1	97.5	101.8	103.6	103.7	105.3
Girls						
6-11 years---------	92.4	97.7	99.7	102.2	104.0	101.3
6 years----------	91.3	98.7	99.6	103.4	103.9	97.5
7 years----------	91.8	96.5	99.7	102.0	104.8	106.1
8 years----------	91.4	99.2	100.0	101.3	103.9	98.0
9 years----------	93.5	98.9	99.5	101.1	104.9	103.0
10 years---------	92.8	97.7	100.4	101.6	102.9	101.5
11 years---------	93.5	95.0	99.1	104.0	104.0	103.4
	Standard error					
Both sexes 6-11 years----------	0.95	0.65	0.47	0.50	0.63	1.37
Boys 6-11 years----------	1.37	0.91	0.57	0.77	1.10	1.52
Girls 6-11 years---------	0.84	0.65	0.61	0.52	0.94	1.72

Table 34. Average standard scores for white and Negro children on the Goodenough-Harris Drawing Test, by annual family income, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	White standard score					
Both sexes 6-11 years	94.4	98.8	100.8	102.2	103.8	102.4
Boys						
6-11 years	95.4	99.5	101.7	102.1	103.5	103.2
6 years	95.1	98.5	103.5	100.9	102.8	101.8
7 years	97.1	100.9	102.0	99.9	106.1	103.1
8 years	96.5	100.6	98.0	102.9	103.6	101.4
9 years	93.6	100.7	102.6	102.4	102.4	103.7
10 years	93.8	99.5	102.9	102.8	102.4	104.5
11 years	96.4	97.3	101.4	103.4	103.7	105.3
Girls						
6-11 years	93.5	98.1	99.7	102.2	104.1	101.3
6 years	92.4	98.4	99.5	103.5	103.9	97.5
7 years	92.1	96.8	99.1	102.1	104.7	106.1
8 years	91.3	99.8	100.3	101.0	104.0	98.0
9 years	94.6	99.4	99.2	101.2	105.1	103.0
10 years	94.7	98.4	101.1	101.7	102.9	101.5
11 years	95.2	95.9	99.3	104.0	104.0	103.3
	Standard error					
Both sexes 6-11 years	1.15	0.81	0.49	0.53	0.64	1.38
Boys 6-11 years	1.24	1.10	0.60	0.77	1.10	1.51
Girls 6-11 years	1.27	0.76	0.56	0.53	0.95	1.73
	Negro standard score					
Both sexes 6-11 years	90.4	96.2	99.4	101.4	98.7	-
Boys						
6-11 years	90.6	96.3	99.3	101.2	95.0	-
6 years	86.9	96.1	100.5	100.8	96.6	-
7 years	89.1	90.2	102.5	110.0	-	-
8 years	93.7	92.5	96.9	100.1	78.0	-
9 years	87.4	100.9	93.6	98.5	-	-
10 years	93.2	99.6	97.2	88.8	101.3	-
11 years	93.0	98.2	104.5	106.3	-	-
Girls						
6-11 years	90.2	96.0	99.5	101.6	103.5	-
6 years	89.4	99.6	106.5	101.3	-	-
7 years	90.9	95.3	103.9	99.9	105.0	-
8 years	91.7	96.9	97.1	110.4	100.4	-
9 years	90.7	97.4	100.8	98.7	-	-
10 years	89.4	93.8	92.9	100.0	-	-
11 years	89.9	90.8	99.2	103.0	-	-
	Standard error					
Both sexes 6-11 years	1.57	0.90	1.97	1.65	8.45	-
Boys 6-11 years	2.69	1.50	2.15	3.09	11.85	-
Girls 6-11 years	1.44	0.96	2.47	3.02	32.98	-

Table 35. Average standard scores for children on the Goodenough-Harris Drawing Test, by annual family income, region, age, and sex, with standard errors for total averages: United States, 1963-65

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,000	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	Northeast standard score					
Both sexes 6-11 years	95.5	99.0	99.8	103.8	103.8	103.4
Boys						
6-11 years	97.5	99.8	101.0	103.1	104.0	105.2
6 years	100.7	100.1	104.0	102.8	104.2	102.6
7 years	92.2	99.2	101.3	100.7	103.7	107.1
8 years	101.2	102.2	98.1	109.2	104.0	103.6
9 years	98.4	97.9	101.0	102.0	104.2	106.3
10 years	99.8	101.2	99.6	101.6	103.4	105.9
11 years	92.2	98.1	102.5	101.5	104.8	108.2
Girls						
6-11 years	94.1	98.2	98.6	104.6	103.4	101.7
6 years	92.6	102.8	96.4	105.1	101.9	86.5
7 years	93.1	96.6	101.0	104.4	94.0	111.6
8 years	97.0	98.7	99.0	104.6	105.2	99.3
9 years	93.3	101.4	100.3	106.9	102.6	96.3
10 years	92.0	99.1	97.7	99.8	106.9	106.8
11 years	100.2	93.8	96.2	104.7	111.4	104.5
	Standard error					
Both sexes 6-11 years	1.51	0.82	0.87	0.61	0.23	2.97
Boys 6-11 years	1.54	1.13	1.07	1.40	0.82	3.18
Girls 6-11 years	2.25	1.58	0.74	0.87	1.24	3.80
	Midwest standard score					
Both sexes 6-11 years	97.5	99.0	100.7	101.4	102.3	100.5
Boys						
6-11 years	97.5	100.3	101.5	100.9	101.8	99.3
6 years	92.5	100.8	103.9	99.3	98.6	106.3
7 years	99.9	100.8	102.2	100.3	111.4	98.6
8 years	103.9	100.6	100.0	98.4	104.6	95.0
9 years	93.1	101.2	100.8	103.4	100.5	100.1
10 years	97.2	101.6	100.8	101.1	100.2	101.6
11 years	95.0	96.7	101.0	103.5	101.0	96.6
Girls						
6-11 years	97.5	97.7	99.9	102.0	102.8	102.3
6 years	98.1	96.6	101.8	104.0	109.2	101.7
7 years	96.1	99.0	99.0	100.6	108.1	106.5
8 years	93.0	100.0	101.2	100.4	102.2	97.4
9 years	98.7	97.2	99.6	99.4	104.3	104.3
10 years	102.3	95.3	100.6	104.7	94.2	103.3
11 years	96.0	96.8	97.8	104.0	102.7	99.3
	Standard error					
Both sexes 6-11 years	1.58	1.49	1.24	1.18	1.05	2.55
Boys 6-11 years	2.48	1.89	1.49	1.55	2.25	2.68
Girls 6-11 years	1.69	1.50	1.59	1.03	2.20	3.53

Table 35. Average standard scores for children on the Goodenough-Harris Drawing Test, by annual family income, region, age, and sex, with standard errors for total averages: United States, 1963-65—Con.

Age and sex	Annual family income					
	Less than $3,000	$3,000-$4,999	$5,000-$6,999	$7,000-$9,999	$10,000-$14,999	$15,000 or more
	South standard score					
Both sexes 6-11 years	91.5	95.9	100.9	101.5	105.5	102.1
Boys						
6-11 years	92.2	95.7	102.2	100.5	107.1	102.8
6 years	94.2	92.5	104.3	100.0	106.6	95.6
7 years	92.4	96.3	99.4	100.6	110.1	117.1
8 years	92.3	91.4	95.4	96.6	102.2	95.6
9 years	88.6	99.8	100.5	97.2	107.5	109.3
10 years	92.2	96.1	107.3	106.0	101.2	109.9
11 years	94.0	98.0	104.9	102.8	110.5	105.1
Girls						
6-11 years	90.8	96.2	99.4	102.3	103.7	101.3
6 years	90.4	96.9	101.2	104.5	96.6	102.6
7 years	89.7	95.2	99.3	101.5	107.4	95.5
8 years	89.2	98.6	104.5	106.0	107.6	89.2
9 years	92.7	96.9	96.5	95.9	102.0	109.0
10 years	90.4	91.8	100.3	100.1	98.5	106.6
11 years	91.2	96.3	95.9	103.2	102.6	107.2
	Standard error					
Both sexes 6-11 years	1.14	1.25	0.82	1.49	3.48	2.01
Boys 6-11 years	1.86	1.70	0.69	2.24	4.40	2.50
Girls 6-11 years	1.13	1.06	1.31	1.54	2.84	3.00
	West standard score					
Both sexes 6-11 years	92.8	99.1	101.4	101.6	104.8	104.0
Boys						
6-11 years	93.6	99.8	101.9	103.1	103.2	107.5
6 years	87.6	99.1	101.3	101.2	106.0	111.3
7 years	95.7	97.9	104.1	100.6	101.9	102.3
8 years	95.0	101.9	96.9	103.4	101.2	105.5
9 years	96.5	102.3	106.7	104.1	102.5	103.5
10 years	89.6	100.2	104.5	102.7	104.7	113.3
11 years	98.3	97.2	99.5	105.8	103.7	114.0
Girls						
6-11 years	91.8	98.5	100.8	99.6	106.7	99.4
6 years	89.0	99.6	99.3	98.7	104.4	86.9
7 years	91.8	94.9	99.1	99.9	107.6	99.8
8 years	91.3	99.3	98.0	96.0	103.1	108.2
9 years	91.7	101.3	100.2	99.8	112.5	113.1
10 years	93.9	101.8	102.2	99.8	109.8	96.1
11 years	98.6	93.6	107.7	103.9	101.2	101.1
	Standard error					
Both sexes 6-11 years	1.85	1.72	0.65	0.62	0.72	2.44
Boys 6-11 years	2.29	1.74	0.90	0.93	1.17	3.07
Girls 6-11 years	1.82	2.07	0.98	1.18	1.58	2.66

APPENDIX I

STATISTICAL NOTES

The Survey Design

The sample design for the second cycle of the Health Examination Survey, similar to the one used for the first cycle, was that of a multistage, stratified probability sample of loose clusters of persons in land-based segments. Successive elements dealt with in the process of sampling are primary sampling unit (PSU), census enumeration district (ED), segment, household, eligible child (EC), and, finally, the sample child (SC).

At the first stage, the nearly 2,000 PSU's into which the United States (including Hawaii and Alaska) has been divided and then grouped into 357 strata for use in the Current Population Survey and the Health Interview Survey were further grouped into 40 super-strata for use in Cycle II of the Health Examination Survey. The average size of each Cycle II stratum was 4.5 million persons, and all strata fell between the limits of 3.5 and 5.5 million. Grouping into 40 strata was done in a way that maximized homogeneity of the PSU's included in each stratum, particularly with regard to degree of urbanization, geographic proximity, and degree of industrialization. The 40 strata were classified into four broad geographic regions (each with 10 strata) of approximately equal population and cross-classified into four broad population density groups (each having 10 strata). Each of the 16 cells contained either two or three strata. A single stratum might include only one PSU, only part of a PSU (e.g., New York City, which represented two strata), or several score PSU's.

To take account of the possible effect that the rate of population change between the 1950 and 1960 Census might have had on health, the 10 strata within each region were further classified into four classes ranging from those with no increase to those with the greatest relative increase. Each such class contained either two or three strata.

One PSU was then selected from each of the 40 strata. A controlled selection technique was used in which the probability of selection of a particular PSU was proportional to its 1960 population. In the controlled selection an attempt was also made to maximize the spread of the PSU's among the States. While not every one of the 64 cells in the 4x4x4 grid contributes a PSU to the sample of 40 PSU's, the controlled selection technique ensured the sample's matching the marginal distributions in all three dimensions and being closely representative of all cross-classifications.

Generally, within a particular PSU, 20 ED's were selected with the probability of selection of a particular ED proportional to its population in the age group 5-9 years in the 1960 Census, which by 1963 roughly approximated the population in the target age group for Cycle II. A similar method was used for selecting one segment (cluster of households) in each ED. Each of the resultant 20 segments was either a bounded area or a cluster of households (or addresses). All the children in the age range properly resident at the address visited were EC's. Operational considerations made it necessary to reduce the number of prospective examinees at any one location to a maximum of 200. The EC's to be excluded for this reason from the SC group were determined by systematic subsampling.

The total sample included 7,417 children from 25 different States in the age group 6-11 years with approximately 1,000 in each of the single years of age.

Reliability

Measurement processes employed in the survey were highly standardized and closely controlled. Of course this does not mean that the correspondence between the real world and the survey results is exact. Data from the survey are imperfect for three major reasons: (1) results are subject to sampling error, (2) the actual conduct of a survey never agrees perfectly with the design, and (3) the measurement processes themselves are inexact even though standardized and controlled.

The first report on Cycle II[6] describes in detail the faithfulness with which the sampling design was carried out. It notes that out of the 7,417 sample children the 7,119 who were examined—a response rate of 96 percent—gave evidence that they were a highly representative sample of children of this age in the noninstitutional population of the United States. The response levels for the various demographic sub-

groups—including those for age, sex, race, region, population density, parents' educational level, and family income—show no marked differentials. Hence it appears unlikely that nonresponse could bias the findings much in these respects.

The number of examinees within the various demographic and socioeconomic groups considered in this report are shown in table I.

Measures used to control the quality of data from this survey in general have been cited previously;[6] those relating specifically to the Human Figure Drawing Test are also outlined in an earlier report.[5]

Data recorded for each sample child are carefully edited and translated onto magnetic tape. In the computer processing of these data the findings are inflated in the estimation process to characterize the larger universe of which the sample child is representative. The weights used in this inflation process are a product of the reciprocal of the probability of selecting the child, an adjustment for nonresponse cases, and a poststratified ratio adjustment which increases precision by bringing survey results into closer alignment with known U.S. population figures by color and sex within single years of age 6-11.

In the second cycle of the Health Examination Survey the sample was the result of three stages of selection—the single PSU from each stratum, the 20 segments from each sample PSU, and the sample children from the eligible children. The probability of selecting an individual child is the product of the probability of selection at each stage.

Since the strata are roughly equal in population size and a nearly equal number of sample children were examined in each of the sample PSU's, the sample design is essentially self-weighting with respect to the target population; that is, each child 6-11 years old had about the same probability of being drawn into the sample.

The adjustment upward for nonresponse is intended to minimize the impact of nonresponse on final estimates by imputing to nonrespondents the characteristics of "similar" respondents. Here "similar" respondents were judged to be examined children in a sample PSU having the same age (in years) and sex as children not examined in that sample PSU.

The poststratified ratio adjustment used in the second cycle achieved most of the gains in precision which would have been attained if the sample had been drawn from a population stratified by age, color, and sex and made the final sample estimates of population agree exactly with independent controls prepared by the Bureau of the Census for the noninstitutional population of the United States as of August 1, 1964 (approximate mid-survey point), by color and sex for each single year of age 6 through 11. The weight of every responding sample child in each of the 24 age, color, and sex classes is adjusted upward or downward so that the weighted total within the class equals the independent population control.

In addition to children not examined at all, there were some whose examination was incomplete in one procedure or another. The extent of missing data for this test and the methods used to estimate these missing results have been described previously.[6]

Sampling and Measurement Error

In the present report, reference has been made to efforts to minimize bias and variability of measurement techniques.

The probability design of the survey makes possible the calculation of sampling errors. The sampling error is used here to determine how imprecise the survey test results may be because they come from a sample rather than from the measurements of all elements in the universe.

The estimation of sampling errors for a study of the type of the Health Examination Survey is difficult for at least three reasons: (1) measurement error and "pure" sampling error are confounded in the data—it is not easy to find a procedure which will either completely include both or treat one or the other separately, (2) the survey design and estimation procedure are complex and accordingly require computationally involved techniques for the calculation of variances, and (3) from the survey are coming thousands of statistics, many for subclasses of the population for which there are a small number of cases. Estimates of sampling error are obtained from the sample data and are themselves subject to sampling error, which may be large when the number of cases in a cell is small or even occasionally when the number of cases is substantial.

Estimates of approximate sampling variability for selected statistics used in this report are presented in the detailed tables. These estimates have been prepared by a replication technique which yields overall variability through observation of variability among random subsamples of the total sample as previously described.[19] The method reflects both "pure" sampling variance and a part of the measurement variance. A similar pseudoreplication technique was used to estimate the standard errors of the correlation coefficients shown in the Findings section.[20]

In accordance with usual practice, the interval estimate for any statistic may be considered the range within one standard error of the tabulated statistic with 68-percent confidence, or the range within two standard errors of the tabulated statistic with 95-percent

Table I. Number of examinees aged 6-11 years within selected demographic and socioeconomic groups, by type of figure drawn and sex of child: Health Examination Survey, 1963-65

Variable	Man drawings			Woman drawings		
	Both sexes	Boys	Girls	Both sexes	Boys	Girls
Total	3,720	3,050	670	3,399	582	2,817
Race						
White	3,239	2,671	568	2,861	482	2,379
Negro	464	364	100	523	100	423
Other	17	15	2	15	0	15
Region						
Northeast	885	738	147	897	155	742
Midwest	1,025	833	192	871	128	743
South	849	684	165	858	166	692
West	961	795	166	773	133	640
Size of place of residence						
Total urban	2,480	2,071	409	2,316	388	1,928
Within urbanized areas:						
3 million or more	720	605	115	773	138	635
1,000,000-2,999,999	520	447	73	444	67	377
250,000-999,999	424	356	68	384	54	330
Less than 250,000	295	245	50	277	49	228
Urban—outside urbanized areas:						
25,000 or more	193	147	46	148	28	120
10,000-24,999	121	105	16	89	16	73
2,500-9,999	207	166	41	201	36	165
Rural areas	1,240	979	261	1,083	194	889
Population change in size of place of residence from 1950 to 1960						
Loss	984	780	204	843	145	698
Below-average gain	841	684	157	847	161	686
Average gain	986	833	153	903	144	759
Above-average gain	909	753	156	806	132	674

Table I. Number of examinees aged 6-11 years within selected demographic and socioeconomic groups, by type of figure drawn and sex of child: Health Examination Survey, 1963-65—Con.

Table I. Number of examinees aged 6-11 years within selected demographic and socioeconomic groups, by type of figure drawn and sex of child: Health Examination Survey, 1963-65—Con.

Variable	Man drawings			Woman drawings		
	Both sexes	Boys	Girls	Both sexes	Boys	Girls
Grade in school						
Kindergarten	50	42	8	44	5	39
First grade	654	516	138	473	83	390
Second grade	643	523	120	615	116	499
Third grade	604	510	94	645	130	515
Fourth grade	613	501	112	595	103	492
Fifth grade	554	476	78	524	73	451
Sixth grade	425	342	83	366	49	317
Seventh grade	76	61	15	91	8	83
Special class	65	53	12	35	13	22
Education of parent						
Less than 5 years	263	202	61	209	37	172
5-7 years	330	265	65	326	70	256
8 years	404	314	90	383	67	316
9-11 years	757	612	145	709	129	580
12 years	1,158	970	188	1,034	166	868
13-15 years	284	243	41	266	35	231
16 years	289	246	43	248	43	205
17 years or more	201	173	28	172	28	144
Unknown	34	25	9	52	7	45
Family income						
Less than $3,000	626	473	153	597	111	486
$3,000-4,999	666	527	139	614	122	492
$5,000-6,999	848	709	139	804	132	672
$7,000-9,999	775	657	118	676	99	577
$10,000-14,999	429	372	57	384	58	326
$15,000 or more	185	156	29	144	27	117
Unknown	191	126	35	180	147	33

confidence. The latter is used as the level of significance in this report.

An approximation of the standard error of a difference $d = x - y$ of two statistics x and y is given by the formula $S_d = (S_x^2 + S_y^2)^{1/2}$ where S_x and S_y are the sampling errors, respectively, of x and y, shown in some of the detailed tables.

Small Categories

In some tables, magnitudes are shown for cells for which the sample size is so small that the sampling error may be several times as great as the statistic itself. Obviously in such instances the statistic has no meaning in itself except to indicate that the true quantity is small. Such numbers, if shown, have been included in the belief that they may help to convey an impression of the overall story of the table.

Standard Sources and Standard Deviations

The following formula was used for computing the standard scores, or deviation intelligence quotients, shown in this report:

$$SS_i = \frac{1}{s_{x_i}} (15)(x - \bar{x}_i) + 100$$

where S_{x_i} is the standard deviation of the raw scores in the i^{th} year of age and $\bar{x}_i$ is the arithmetic mean or average raw score in that age interval (both S_{x_i} and $\bar{x}_i$ derived from the inflated sample) and x is the raw score for which the standard score is being derived.

The standard deviations of the raw scores shown by race, region, and urban-rural areas were derived from the weighted population estimates using the formula $S_x = \left[\frac{\Sigma \omega x^2}{N} - \left(\frac{\Sigma \omega x}{N}\right)^2\right]^{1/2}$.

APPENDIX II

DEMOGRAPHIC AND SOCIOECONOMIC VARIABLES AND RELATED TERMS

Age.—The age recorded for each child was the age at last birthday on the date of examination. The age criterion for inclusion in the sample used in this survey was defined in terms of age at time of interview. Since the examination usually took place 2 to 4 weeks after the interview, some of those who were 11 years old at the time of interview became 12 years old by the time of examination. There were 72 such cases. In the adjustment and weighting procedures used to produce national estimates, these 72 were included in the 11-year-old group.

Race.—Race was recorded as "white," "Negro," or "other." The last category included American Indians, Chinese, Japanese, and all races other than white or Negro. Mexican persons were included with "white" unless definitely known to be American Indian or of another race. Negroes and persons of mixed Negro and other parentage were recorded as "Negro."

Geographic region.—For purposes of stratification the United States was divided into four broad geographic regions of approximately equal population. These regions, which correspond closely to those used by the U.S. Bureau of the Census, were as follows:

Region	*States Included*
Northeast -------	Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, and Pennsylvania
Midwest --------	Ohio, Illinois, Indiana, Michigan, Wisconsin, Minnesota, Iowa, and Missouri
South ----------	Delaware, Maryland, District of Columbia, West Virginia, Virginia, Kentucky, Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Louisiana, and Arkansas
West ----------	Washington, Oregon, California, Nevada, New Mexico, Arizona, Texas, Oklahoma, Kansas, Nebraska, North Dakota, South Dakota, Idaho, Utah, Colorado, Montana, Wyoming, Alaska, and Hawaii

Urban and rural areas.—The definition of urban and rural areas was the same as that used in the 1960 Census. According to this definition, the urban population was comprised of all persons living in (a) places of 2,500 inhabitants or more incorporated as cities, boroughs, villages, and towns (except towns in New England, New York, and Wisconsin); (b) the densely settled urban fringe, whether incorporated or unincorporated, of urbanized areas; (c) towns in New England and townships in New Jersey and Pennsylvania which contained no incorporated municipalities as subdivisions and had either 2,500 inhabitants or more, or a population of 2,500 to 25,000 and a density of 1,500 persons or more per square mile; (d) counties in States other than the New England States, New Jersey, and Pennsylvania that had no incorporated municipalities within their boundaries and had a density of 1,500 persons or more per square mile; and (e) unincorporated places of 2,500 inhabitants or more not included in any urban fringe. The remaining population was classified as rural.

Urban areas are further classified by population size for places within urbanized areas and other urban places outside urbanized areas.

Grade in school.—The grade that the child attended at the time of interview was used and later verified against school records. The grade of children on summer vacation was considered to be the grade that they would enter when school resumed.

Education of parent or guardian.—The highest grade completed in school was recorded. The only grades counted were those attended in a regular

public or private school where persons were given formal education, whether during the day or at night and whether attendance was full or part time. A "regular" school is one which advances a person toward an elementary or high school diploma, or a college, university, or professional school degree. Education in vocational, trade, or business schools outside the regular school system was not counted in determining the highest grade of school completed.

Family income.—The income recorded was the total income received during the past 12 months by the head of the household and all other household members related to the head by blood, marriage, or adoption. This income was the gross cash income (excluding pay in kind) except in the case of a family with its own farm or business, in which case net income was recorded.

Parent.—A parent was the natural parent or, in the case of adoption, the legal parent of the child.

Guardian.—A guardian was responsible for the care and supervision of the child. He (or she) did not have to be the legal guardian to be considered the guardian for this survey. A guardianship could only exist when the parent(s) of the child did not reside within the sample household.

Head of household.—Only one person in each household was designated as the "head." He (or she) was the person who was regarded as the "head" by the members of the household. In most cases the head was the chief breadwinner of the family although this was not always true. In some cases the head was the parent of the chief earner or the only adult member of the household.

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National Center for Health Statistics. "Intellectual Maturity of Children: Demographic and Socioeconomic Factors, United States" VITAL AND HEALTH STATISTICS, Series 11, No. 116, DHEW Publication No. (HSM) 72-1059, 74 pp. Health Services and Mental Health Administration, DHEW, Rockville, Maryland, 20852.

Data on the intellectual maturity of children 6-11 years of age in the noninstitutionalized population of the United States in relation to their demographic and socioeconomic background are analyzed in this report from the National Center for Health Statistics. This is the second report on the Goodenough-Harris Drawing Test, administered in the Health Examination Survey of 1963-65, and deals with the results in relation to factors of race, region, size of place of residence, grade in school, education of parent, and family income. For this survey a probability sample of 7,417 children was selected to represent the 24 million noninstitutionalized children in the United States. Of this sample the 7,119 or 96 percent examined were found to be closely representative of American children of this age with respect to age, sex, race, region, and other selected variables.

While white children scored higher than Negro children on this test, the racial differential is lower than on the other two standardized psychological instruments used in the survey to measure other aspects of intelligence and school achievement--the Wechsler Intelligence Scale for Children and the Wide Range Achievement Test--and is reduced to a negligible amount when the effects of differences in parent's education and family income are controlled.

The performance of children on this test does not differ appreciably among the four regions of the Nation (Northeast, Midwest, South, and West, except in the South, where children of both races fall below those in other regions. Size of place of residence is not consistently related to test scores, although children from larger cities tend to perform slightly better than those from small community or rural areas. There is a slight but consistent association between drawing test scores of white and Negro children and rate of population change in the 1950's. Children from areas of population gain had the highest average scores; those from areas losing population had the lowest. This trend was most noticeable in the South. Children over the modal age for school grade do more poorly than those below the modal age, while those at the modal age for grade yield consistently average scores. Father's education and family income both show a relationship

to children's scores, those from families with the higher levels of income and parental education yielding the highest scores.

Included are descriptions of the Goodenough-Harris Drawing Test, the survey design, and reliability of estimates; and comparisons with previous research using this type of test instrument.

Copies of "Intellectual Maturity of Children: Demographic and Socioeconomic Factors, United States" VITAL AND HEALTH STATISTICS, Series 11, No. 116, DHEW Publication No. (HSM) 72-1059, 74 pp., may be purchased for 70 cents from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402

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